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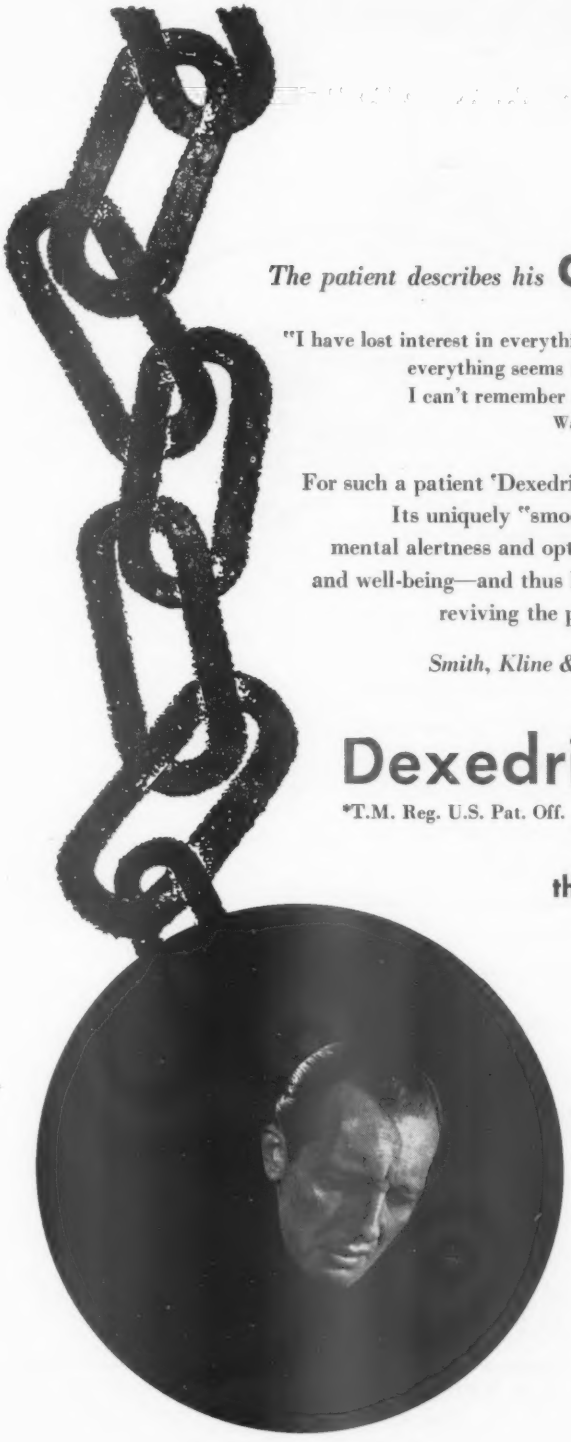

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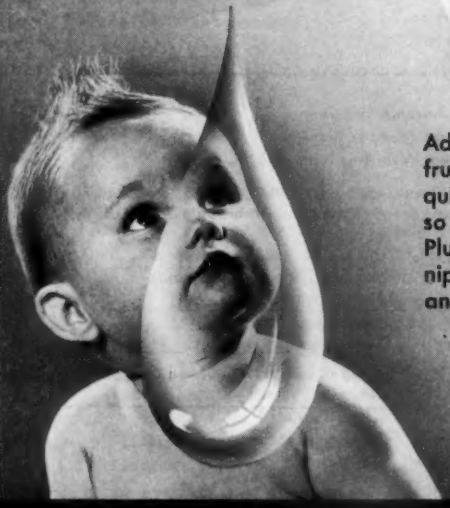

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1. Jeans, Philip C.: Handbook of Nutrition. Chicago, American Medical Association, 1943, p. 354.

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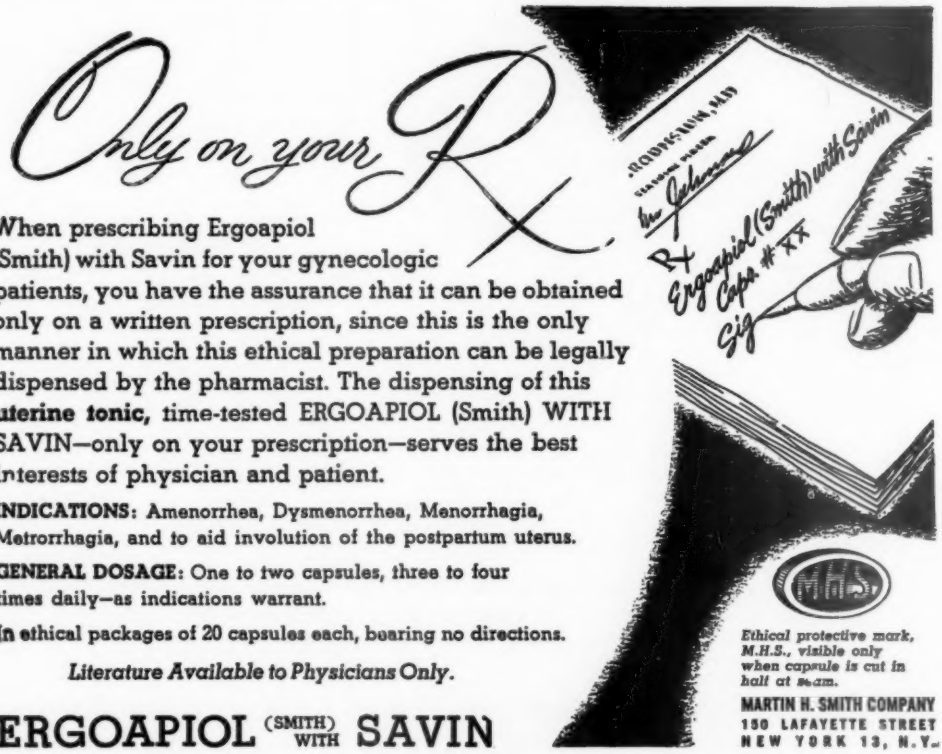

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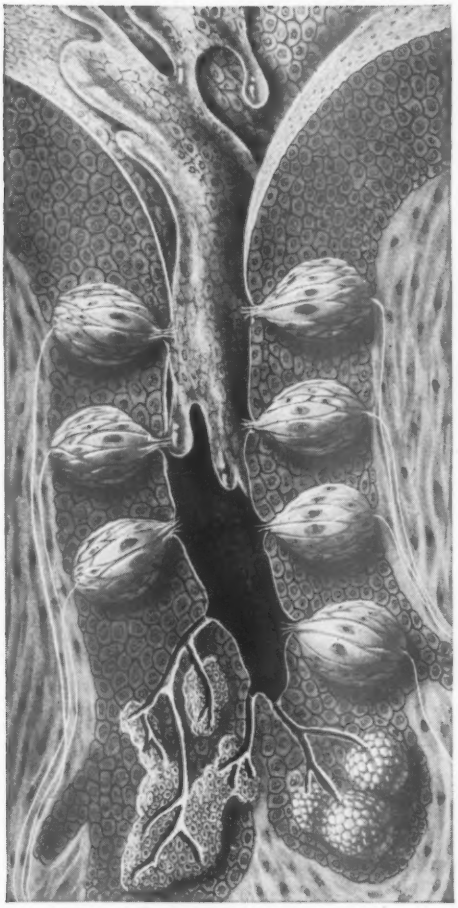

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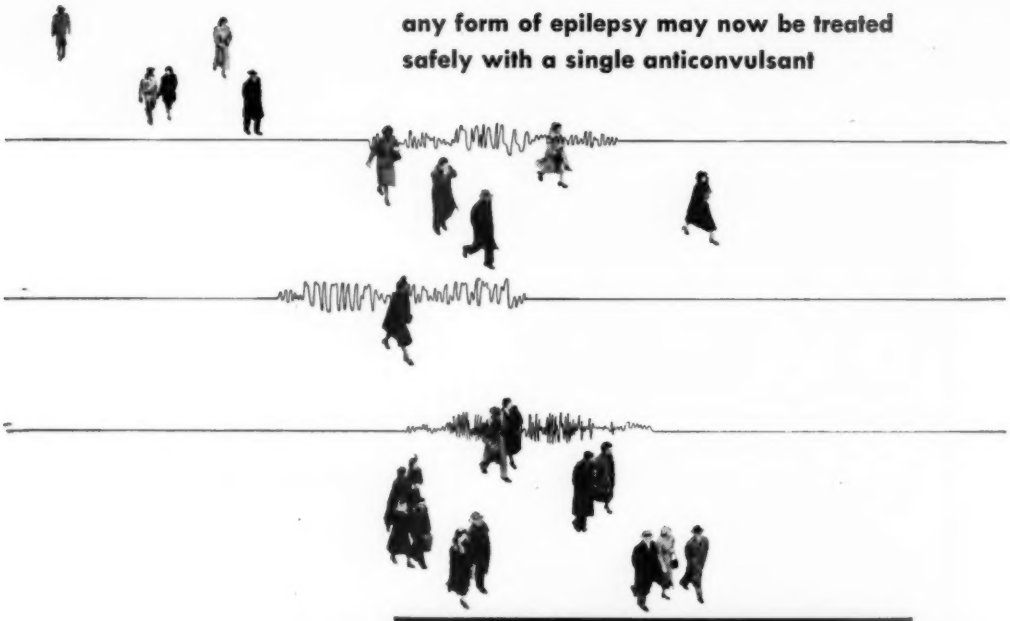

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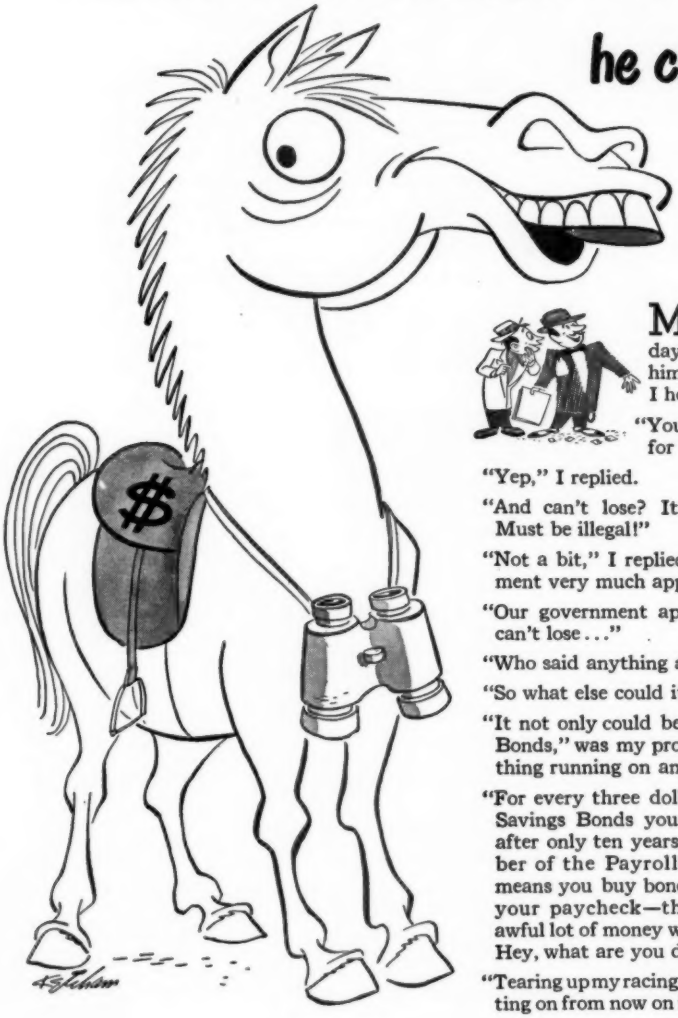
"There's no such animal," he cried!



MY FRIEND and I were picking the ponies one day when I started telling him about *a sure thing* I heard about.

"You say it pays four bucks for every three?" he asked.

"Yep," I replied.

"And can't lose? It *automatically* wins? Must be illegal!"

"Not a bit," I replied. "In fact, the government very much approves..."

"Our government approves of a horse who can't lose..."

"Who said anything about a horse?" I asked.

"So what else could it be but a horse...?"

"It not only could be—but is—U. S. Savings Bonds," was my prompt reply. "The surest thing running on any track today.

"For every three dollars you invest in U. S. Savings Bonds you get four dollars back after only ten years. And if you're a member of the Payroll Savings Plan—which means you buy bonds *automatically* from your paycheck—that can amount to an awful lot of money when you're not looking. Hey, what are you doing?"

"Tearing up my racing form! The horse I'm betting on from now on is U. S. Savings Bonds."

Automatic saving is <u>sure</u> saving—U.S. Savings Bonds

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The Transitory Superficial Granular Layer of the Cerebellar Cortex

ITS RELATIONSHIP TO CERTAIN CEREBELLAR NEOPLASMS

Hartwig Kuhlenbeck, M.D., Ph.D.

THE CEREBELLAR CORTEX of the newborn and of infants differs in its histologic aspect rather remarkably from the cerebellar cortex of children and adults. This dissimilarity concerns mainly the molecular layer, while the granule cell layer and the layer of Purkinje cells present an essentially identical architectural pattern at birth and in later life. The molecular layer, however, which in adults contains comparatively few nerve cells and some evenly scattered glial elements, displays in the newborn a dense and fairly thick superficial subpial layer of small granular and elongated cells (Fig. 1A).

Although neuroanatomists and neuropathologists are familiar with this striking feature and its import, some of the most widely used embryology and neuroanatomy texts fail to mention the histologic peculiarities of the cerebellar cortex in the infant or to give a proper account of the significance of the transitory superficial granular layer.

In my experience as consultant I frequently had occasion to explain this structure to younger pathologists who were puzzled by its aspect and suspected a malformation or a pathologic process. Thus it seems apropos to bring some facts concerning the superficial granular layer to the attention of the general medical reader, especially since that structure or parts of it may persist and such remnants become a potential matrix for neoplastic growth.

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The superficial transitory granular layer of the human cerebellum has been known since 1858 when it was described in a dissertation by Hess. It was then carefully investigated in man and mammals by Obersteiner (1883) and is therefore also occasionally designated as Obersteiner's layer. Among the many subsequent contributions to the study of that structure those of Schaper (1897), Biach (1910), Jakob (1928), and Raaf and Kernohan (1944) should be mentioned.

The superficial granular layer of the human cerebellar cortex becomes apparent during the third month of intrauterine development. Its main source of origin is found at the caudal edge of the cerebellar plate, along the so-called velum medullare posterius, and along the rhombic lip, in the region of the junction of roof plate and alar plate. There is conspicuous proliferation of embryonic cells in the posterior cerebellar midline where the ependyma of the roof plate forms

a wedge-like structure. From this region the superficial granular layer spreads over the whole cerebellar surface, perhaps augmented by local migration from the mantle layer of the proliferating ventricular matrix which condenses into a cell plate separated from the superficial granular layer by a marginal layer poor in cells.

The definitive cerebellar cortex therefore arises both by peripheral migration from the ventricular matrix and by central migration from the superficial granular layer which gradually becomes exhausted in the course of this process.

Despite numerous studies by a large group of investigators many histogenetic details remain controversial. Jakob and others assume that the Purkinje cells originate mainly from the inner matrix while the superficial granular layer contributes granular and other cell forms including glial elements. Schaper, Kappers (1921) and others believe that both external and internal matrix take an equal part in the formation of the definitive cerebellar cortex. On the basis of my own observations I favor this latter view. Schaper introduced the concept of indifferent cells, subsequently designated as medulloblasts by Bailey and Cushing (1925) and as bipotential mother cells by Globus and Kuhlenbeck (1944). These cells are believed to be still undetermined and to be able to differentiate either into neuronal or into spongioblastic, gliogenous elements in conformity with the influence of variable factors. Although this concept has been disputed by some authors, notably those of the Spanish school (Hortega, 1941, and others) it has become widely accepted. Kershman (1938) who admits the existence of medulloblasts claims that this cell form occurs exclusively in the superficial granular layer of the cerebellum. He recognizes, however, a still more primitive bipotential cell in other regions of the embryonic neuraxis and designates these elements as "neuroepithelial cells."

Upon careful consideration of all available evidence the transitory superficial granular layer may be regarded as an accessory matrix of the cerebellar cortex, consisting of bipotential mother cells. Fairly wide at birth, when it may have a thickness of 10 to 20 cells, it disappears between the ninth and eleventh postnatal month according to Jakob or within 20 months after birth according to Raaf and Kernohan. Because of individual variations both figures should be considered as within normal limits. At the end of the first year the external granular layer, if still present, is very narrow.

Disturbances of the peculiar histogenesis of the cerebellar cortex result in various forms of dysplasias, hamartomas, hamartias or choristomas, as described by Barton (1934), Bielschowsky and Simons (1930), Foerster and Gagel (1933), Heinlein and Falkenberg (1939), and others.

The significance of embryonic remnants as a potential source of neuroectodermal tumors has been repeatedly stressed and can be regarded as well established. In conformity with these views there are many observations indicating that several types of cerebellar neoplasms may arise from remnants of the transitory superficial granular layer. Such tumors are medulloblastoma, spongioneuroblastoma, glioneuroma, and granuloblastoma.

The type of tumor known as medulloblastoma was named and identified by Bailey and Cushing (1925). It is essentially a cerebellar tumor although it may occasionally occur in other parts of the brain. Most medulloblastomas develop in children. Histologically the tumor consists of small undifferentiated round or carrot-shaped cells (Fig. 2). The scanty cytoplasm of the piriform cells may show a small, indefinite, tail-like process. Mitotic figures are frequently present and can be very numerous. Pseudorosette formation is often seen. A number of authors, including Marburg (1931), Stevenson (1931), Scheinker (1939), Zülch (1940), Raaf and Kernohan (1944), and others have found evidence indicating that medulloblastomas arise from persistent cell rests of the superficial granular layer. My own observations confirm this view. In addition, this tumor has its seat of predilection in the midline of the cerebellum over the fourth ventricle, near the velum medullare posterius. Raaf and Kernohan (1944) have shown that persistent cell rests which may be considered potential sources of medulloblastoma are especially frequent in this posterior midline region which is the main matrix of the superficial granular layer. It is furthermore stressed by Bailey that medulloblastoma is of all gliomas the one most apt to invade and spread in the leptomeninges. This behavior would well agree with an origin from the superficial, subpial matrix.

Bailey and Cushing interpret their medulloblastoma as a tumor of undifferentiated or indifferent neuroectodermal cells but mention the fact that a varying number of neuroblasts may be found in these neoplasms.

Tumors related to medulloblastoma, but in which a definite mixture of more differentiated

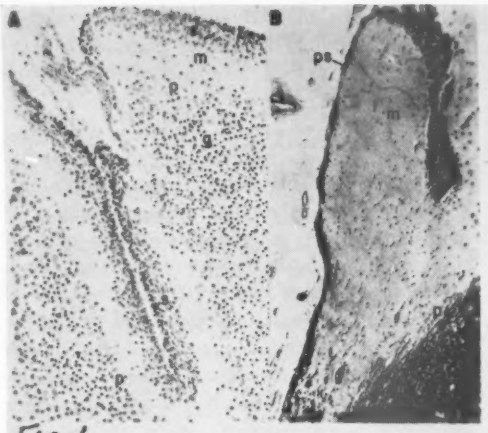

Fig. 1

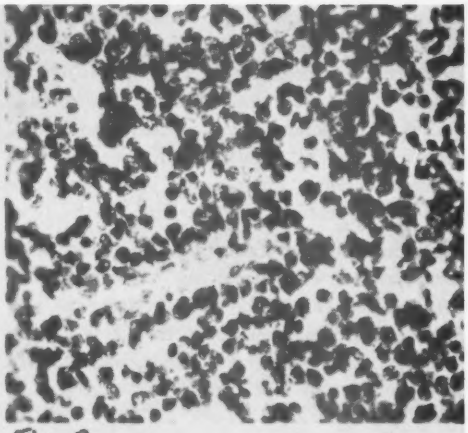

Fig. 2

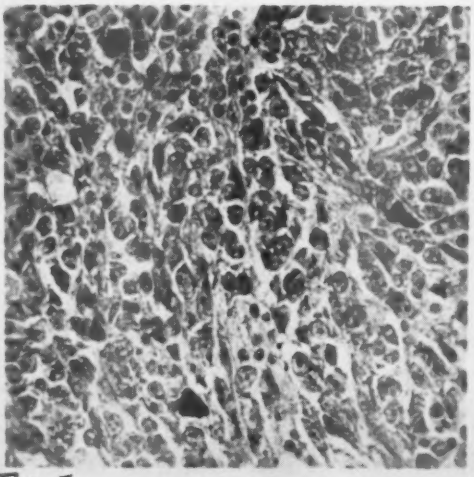

Fig. 3

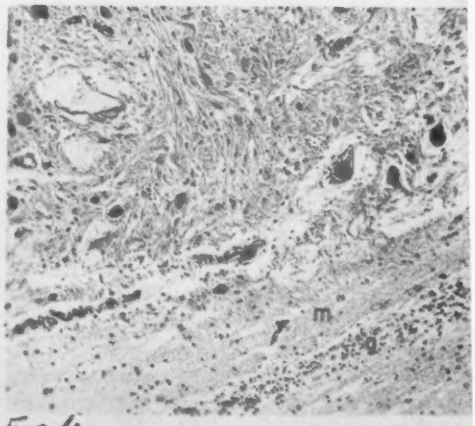

Fig. 4

Fig. 1A—Normal transitory superficial granular layer in the cerebellar cortex of a newborn infant. H&E stain, x 150. B—Abnormal persistent superficial granular layer in the cerebellum of a 22-year-old adult, directly continuous with a neoplasm of spongioneuroblastic type (Courtesy Armed Forces Institute of Pathology, No. 126119a). Nissl stain, x 90. (g) granular layer; (m) molecular layer; (p) layer of Purkinje cells; (s) superficial granular layer; (ps) persistent superficial granular layer; (t) tumor.

Fig. 2. Histologic aspect of medulloblastoma. Densely crowded undifferentiated neuroectodermal cells and an indication of pseudorosette formation can be seen (Courtesy Armed Forces Institute of Pathology, No. 78842). H&E stain, x 470.

Fig. 3. Cerebellar spongioneuroblastoma showing large and small neuronal elements with scattered small spongioblasts and undifferentiated round cells (Courtesy Armed Forces Institute of Pathology, No. 126119b). This tumor was originally referred with the preliminary diagnosis "medulloblastoma." Nissil stain, x 150.

Fig. 4. Cerebellar glioneuroma invading the leptomeninx from the surface of the molecular layer. The tumor consists of large neuronal elements resembling Purkinje cells, and of fairly mature astrocytes. (g) atrophic granular layer; (m) molecular layer. (Courtesy Armed Forces Institute of Pathology, No. 142514). H&E stain, x 125.

cells including neuroblastic and spongioblastic elements occur, should be designated as spongioneuroblastomas according to the terminology of Globus (1938). They may occur in the cerebellum in direct connection with persistent superficial granular layer, as shown by Kuhlenbeck and Haymaker (1946). Figures 1B and 3 illustrate the histologic features of a neoplasm of this type.

Still immature but fairly advanced neuroblasts of such tumors can display the tendency to differentiate into scattered larger cells and into densely crowded smaller elements. This can be interpreted as an expression of the potency of these matrix elements to form large Purkinje cells and smaller granule cells.

Mixed neurogliogenic tumors with mature neuronal and glial elements are classified as glioneuroma by Globus. Such neoplasms are occasionally found in the cerebellum as reported by Bielschowsky (1925), Kuhlenbeck and Haymaker (1946), and others. The superficial origin of some of these tumors from remnants of the transitory superficial granular layer is highly probable and can be assumed from their topography and from evidence of continuity with superficial cell remnants.

Figure 4 shows the histologic features of a cerebellar glioneuroma consisting of mature large neuronal elements of the Purkinje cell type and of mature astrocytes with admixture of a few transitional spongioblasts. The cell bodies are embedded in a meshwork of fibers consisting partly of nerve cell processes, partly of gliogenous fibers. The tumor may encroach upon the cerebellar parenchyma and may also spread on the cerebellar surface and into the leptomeningeal space. This type of growth has been described by Schmincke (1924) in various tumors which he designates as diffuse meningeal gliomas. Figure 4 shows a superficial location. The leptomeninx may also be partly displaced rather than invaded. Ectopic Purkinje cells, scattered through the width of the molecular layer, are not uncommon.

The term granuloblastoma was suggested by Stevenson and Echlin (1934) for primary neuroectodermal tumors originating from the transitory superficial granular layer of the cerebellum and consisting mostly of neuroblasts. Saccone and Epstein (1948) observed similar tumors, consisting mostly of bipolar and unipolar spongioblasts, and likewise used the designation granuloblastoma.

It appears thus well established that from a persistent transitory superficial granular layer of the cerebellum or from remnants of this structure there may arise different types of primary neuroectodermal neoplasms. The histologic elements of these tumors may be either entirely undifferentiated and presumably bipotential, as in medulloblastoma, or more or less differentiated, as in spongioneuroblastoma, glioneuroma and granuloblastoma. This latter type presumably still stands closest to medulloblastoma. It is the degree of maturity of the neoplastic elements and their evolution into the several glial or neuronal cell forms in a varying ratio which determine the morphologic character and other biologic features of a given tumor of neuroectodermal origin (Globus and Kuhlenbeck, 1944).

Especially in the case of primitive, undifferentiated cells, the exact determination of the cell type is often most difficult and may depend upon theoretic, subjective criteria of the observer. Even the various silver methods so emphasized by the Spanish school occasionally fail to provide a decisive clue. The concept of the medulloblast and of the medulloblastoma has been particularly controversial in that respect, apart from semantic objections to the term medulloblast. Tumors classified as medulloblastoma by some neuropathologists are classified as neuroblastoma, granuloblastoma, or spongioneuroblastoma by others. Nevertheless, on the basis of my own observations in a large number of cases of such tumors I believe that there are primary undifferentiated neuroectodermal tumors consisting of primitive elements which cannot be regarded as either neuroblastic or spongioblastic and can be properly interpreted as indifferent, bipotential elements. The concept of the medulloblastoma thus appears to me justified, although I have occasionally seen this histopathologic diagnosis applied to tumors which did not fall in that group. Since the term medulloblastoma seems to be well established, I see no reason for avoiding it nor for substituting the term neurospongioblastoma, used in this sense by Ostertag (1936). The term sphaeroblastoma polymorphon suggested by Marburg (1931) is hardly of greater advantage. The designation granuloblastoma could well be employed for certain transitional tumors of more advanced type than medulloblastoma but its indiscriminate use for all neuroectodermal neoplasms arising from the transitory superficial granular layer of the cerebellum would not be advisable.

None of the tumors discussed above as presumably related to the external granular layer can be regarded as truly benign. In conformity with previous observations in various series of neuroectodermal tumors these cerebellar neoplasms show a certain relationship of their malignancy to the stage of differentiation of their components. Medulloblastoma as the most undifferentiated growth can be considered as the most malignant; at the same time it is also the most radiosensitive. Glioneuroma grows as a rule more slowly.

The assumed potencies of the cells in the embryonic superficial granular layer may be similar to those of the subependymal matrix and subependymal cell plate. It is thus not unlikely that occasionally other types of cerebellar neoplasms, such as ependymoma, including choroid papilloma, and astrocytoma or even spongioblastoma multiforme might arise from the superficial matrix remnants but evidence in that respect is less conclusive.

Summary

The presence and significance of the transitory superficial granular layer of the cerebellar cortex in the newborn and infant are discussed.

This layer or remnants of it may occasionally still persist in older children and adults. Such cell rests are potential sources or origin for various primary neuroectodermal tumors. Neoplasms of this type include medulloblastoma, spongioneuroblastoma, glioneuroma, and granuloblastoma. Histologic and histogenetic features of these tumor forms are briefly reviewed.

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Office Management Of Some Common Types Of Headaches

Dorothy Macy, Jr., M.D., M.S.(Med.)

MUCH HAS APPEARED in recent literature on the subject of the symptom, headache. Patients and profession alike seek a certain cure, preferably simple to prescribe, easy to use, universal in applicability, and as dependable as a guillotine in relief of head pain. Actually, the cause and the cure of intrinsic headaches lie within the individual; the cause and the cure of secondary headaches depend upon the pathogenesis and the treatment of the primary disease. There is no royal road to either cure, for patient or for physician. He who would cure headache, his own or someone's else, must be infinitely patient, anatomically, physiologically, and psychiatrically curious, and able to face failure with resource.

By intrinsic headaches are meant those headaches not secondary to a known disease process, i.e., migraine, histaminic cephalgia, tension headache and muscle tension headache. These, and the secondary headaches which may occur in hypertension, myofibrositis, arteriosclerosis, allergy, and psychoneurosis make up the bulk of chronic headaches seen in daily practice and demanding medical intervention. A schematic summary of the main differentiating features of these headaches is appended for the purpose of defining terms.

Diagnosis of the type of headache from which a patient suffers may be easy or it may be difficult. In general, headache-sensitive persons who have been having a prolonged session of recurrent headache tend to have more than one type of headache. For instance, the migrainous or hypertensive patient, having endured migraine or hypertensive headache over a period of time, is likely to develop also both tension headache and muscle tension headache. The different headaches require proper identification because the therapy differs. Also, chronic headache is prone to produce an anxiety state, which is fertile ground for psychogenic headache and requires psychotherapy.

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An adequate headache history is the most important single diagnostic tool. The following headache history form is a useful screening device.

HEADACHE HISTORY

Age of onset:	Precipitants:
Location:	
Frequency:	Relief:
	Association with menses:
Time of onset:	Association with pregnancy:
Character:	
Duration:	Age of menarche:
Severity:	Age of menopause:
	Personal history: / **Family history:**
Nausea:	headache
Vomiting:	migraine
Scotomata:	hypertension
Paresthesias:	epilepsy
Paralyses:	arthritis
	gout
	ulcer
Nasal stuffiness:	eczema
Rhinorrhea:	asthma
Conjunctivitis:	hay fever
Lacrimation:	hives
Superficial vasodilation:	other

In addition to the history, a complete physical examination and the usual routine studies (complete blood count, urinalysis, serology, sedimentation rate, chest roentgenogram, blood sugar and

blood urea) are necessary for an evaluation of the patient as a whole. Secondary headaches in headache-sensitive people often follow an intrinsic headache pattern. In all headache cases, the fundi should be examined, the head and neck auscultated for bruit, and a skull roentgenogram taken. An electroencephalogram should be done if brain tumor is suspected. Interpretation of the electroencephalogram in migrainous patients may be difficult so far as ruling out epilepsy is concerned, but observation over a period of time and response to diagnostic therapy usually enable one to differentiate the two conditions. A spinal fluid examination is indicated whenever there is the possibility of a central nervous system lesion.

Management of the patient with migraine headaches begins with an explanation to the patient of the mechanism of production of head pain and identification of the more common situations which may serve as a trigger to that mechanism. Insight and emotional acceptance of the situation must replace fear, dread, and anxiety. The patient must accept the liabilities of his labile autonomic nervous system, learn to temper his excessive responsiveness, and assume responsibility for his fundamentally self-engendered bouts of pain. At the same time he must continue to respect and value those assets whose abuse is manifested in the repugnant headache syndrome. The patient must recognize the fact that, while an attitude toward life is indispensable, to put stipulations on life is unreasonable. If these readjustments in outlook are successfully made, the migrainous individual will annihilate the more common precipitants of his syndrome. He will retain the potentiality of expressing fatigue—mental, physical, or emotional—as a migrainous attack, but he will have acquired an insight into that stereotyped autonomic behavior pattern sufficient to enable him to prevent impending attacks if he so chooses.

Relief of the acute attack of migraine headache can usually be obtained with one of the ergot preparations. In the stage of prodromata or aura, Cafergone (1 mg. ergotamine tartrate and 100 mg. caffeine alkaloid, by mouth or rectal suppository may abort the attack entirely, provided that the patient also takes additional rest—preferably about twelve hours of rest.[1,2,3,4,5,6] The dosage of Cafergone required varies from patient to patient, and also varies in different attacks in the same patient. Two tablets immediately, followed by one tablet every half hour for four doses, usually suffice. The original two tablets may suffice if taken early enough in the attack. When a migraine cephalalgia has developed, and after it has persisted for half an hour or more, parenteral administration of ergotamine tartrate or dihydroergotamine is usually necessary for relief.[7,8] The side effects are fewer with dihydroergotamine. The dosage of ergotamine tartrate required is usually from 0.25 to 0.50 mg. subcutaneously, or 0.25 mg. intravenously. Dihydroergotamine, 1 mg., may be administered by either route. Relief is proportional to the amount of drug present within the vascular system at a given time, rather than to total dosage over a period of time. For that reason, a sufficient initial dose may be less than the total of multiple fractionated doses and still give relief. Similarly, the same dose is more effective by the intravenous route.

Atropine will alleviate most of the side effects of the ergot preparations. The patient should be warned, however, that the ergot derivatives may temporarily aggravate the head pain and make it "travel" from one quadrant of the head to another before pain is relieved. Ergot preparations are contraindicated in organic heart disease, obliterative vascular disease, hypertension, septic states with intravascular foci, pregnancy, and impaired hepatic or renal function. Dihydroergotamine has been used without untoward effect during pregnancy and in hypertension, but if so used the patient must be carefully followed. Opinions concerning safe total dosage of ergot preparations vary, but certainly unless the patient is under daily medical supervision a dosage greater than 6 mg. by mouth per week of any of the ergot derivatives should not be exceeded. There is no value whatsoever in the so-called prophylactic use of ergot in migraine; in fact, patients who use ergot chronically soon develop a toxic headache therefrom. Occasionally one encounters a patient who says that the temporary aggravation of the head pain by the ergot preparation is worse than the headache; one can then rest assured that the headache is not very severe. Other vasoconstrictor drugs may be used in the acute attack of migraine. Adrenalin, posterior pituitary, pitressin, and oxygen (a cerebral vasoconstrictor) may at times give relief, but they are not so uniformly effective as ergotamine tartrate and dihydroergotamine.

The successful use of nicotinic acid[9] or histamine[10,11] by the intravenous drip method during acute attacks of migraine has been reported. It has been my experience that vasodilators are effective only when administered early—i.e., in the vasoconstricting or scotomata stage. The successful use of nicotinic acid[12] or of his-

SOME DIFFERENTIAL DIAGNOSTIC

Characteristics	Migraine			Histaminic Cephalgia	Hypertensive Headache	Tension Headache	Muscle Tension Headache
	Typical	Atypical	Hybrid				
Age of onset	Childhood, adolescence, early adult		Adolescence, early adult	Early or middle adult	Any	Any	Any
Periodicity	+ Often with menses or ovulation	+	+	+ Often seasonal	—	—	—
Location	Quadrantic, hemicranial, or whole head		Quadrantic, hemicranial	Quadrantic, hemicranial	Occipital, frontal, rarely vertex	Frontal, generalized	Occipital, nuchal, shoulders
Severity, I-IV	II-IV	I-IV	I-IV	IV	I-IV	I-III	I-II
G.I. disturbance	+ —	+ —	+ —	—	—	—	—
Cortical disturbance	+ —	+ —	+ —	—	— (unless encephalopathy)	—	—
F.H. migraine	+ —	+ —	+ —	—	Often	—	—
Nasal stuffiness and rhinorrhea	+ — Uni- or bilateral	+ —	+ — Unilateral	+ Unilateral	—	—	—
Conjunctivitis and lacrimation	+ — Uni- or bilateral	+ —	+ — Unilateral	+ Unilateral	—	—	—
Character of pain	Throbbing, bursting, vise-like		Stabbing, waxes and wanes	Knifelike, shooting, throbbing	Throbbing or steady, dull	Constant, may throb	Stiff, sore, with superficial tenderness
Duration of pain	Hours to days		2-12 hours	Minutes to 2 hours	2-3 hours usually	4-16 hours	2-3 hours
Night pain	Rarely wakens unless associated with hypertension		Often wakens from sleep	Always wakens from sleep	Wakens 4-6 A.M.	—	—
Other features	Often an unconscious but marked hostility toward an individual or situation. Ambitious, perfectionist, inflexible, meticulous, restrained, "time-bound."			Ulcer not infrequent. Ulcer and cephalalgia exacerbate and remit simultaneously.	Hypertension or vascular hyperreactor	Follows stress	Often associated with arthritis of cervical spine
Precipitants	Fatigue—physical, mental, emotional. Vasodilators			Vasodilators. Histamine.	Widened pulse pressure	Fatigue, stress	Muscle tension
Relief of acute attack	Gynergen, dihydroergotamine, Cafergone.			Dihydroergotamine	Upright posture. Thiocyanates	Rest	Change of posture, heat, massage

FEATURES OF VARIOUS TYPES OF HEADACHES

Myofibrositic Headache	Rheumatic Headache	Temporal Arteritis	Arteriosclerotic Headache	"Allergic" Headache	Headache with Brain Tumor	Psychogenic Headache
Usually adult	Adult	55 years or older	Late adult	Any	Any	Adult
—	—	—	—	May be seasonal	—	—
Occipital, nuchal, shoulders	Occipital, nuchal, shoulders	Distribution of temporal artery	Temporal artery or deep	Vertex, band	Any	"All over"
I-III	II-IV	IV	I-III	I-III	I-IV	O-I
—	—	—	—	—	—	—
—	—	—	—	—	+ —	—
—	—	—	—	—	—	—
—	—	—	—	+ — Bilateral	—	—
—	—	—	—	+ — Bilateral	—	—
Superficial, with superficial tenderness	Exquisite superficial tenderness	Knifelike, shooting, stabbing, throbbing, with marked superficial tenderness	Dull, steady, or may be tic-like	Tight band, weight, or bursting	Any	Constant, invariable ache
Days to weeks	Months	2-6 months	Minutes to weeks	2-3 hours usually	Any	"All the time"
May prevent sleep, does not waken	Prevents sleep	Prevents sleep	Does not waken unless associated with hypertension	—	+ —	—
Normal sedimentation rate. No fever, no nodules	Elevated sedimentation rate, golubin± Low grade fever± Lymphocytosis± Muscle nodules	Malaise, weakness, fever, night sweats, weight loss, leucocytosis, anemia, elevated sedimentation rate, loss of vision	Other evidence of arteriosclerosis	Other stigmata of allergy	Other findings of brain tumor	Other features of psychiatric illness
Dampness, cold	Dampness, cold	—	—	Allergen	Sudden change CSF or blood pressure, body position	—
Heat, massage vasodilators, salicylates	Heat, massage, vasodilators, salicylates	Opiates	Salicylates, vasodilators, histamine subcutaneously	Nasal vasoconstrictors, anti-histaminics	Acetylsalicylic acid, opiates	Psychotherapy

tamine[13] by subcutaneous administration in gradually ascending doses has also been reported. In recalcitrant cases of migraine, these and other adjuvant measures may be useful. By the intravenous route, 100 to 200 mg. nicotinic acid in 250 to 500 cc. physiologic saline solution, or 1 mg. histamine base (2.75 mg. histamine diphosphate) in 250 cc. physiologic saline solution may be administered. When nicotinic acid is employed by the subcutaneous route, the usual initial dose is 25 mg., and each succeeding dose is increased by 5 mg., until a dose of 100 mg. is reached; injections are given twice daily. When histamine is administered by the subcutaneous route, a solution containing 0.275 mg. histamine diphosphate is employed. Injections are given twice daily,. starting with 0.10 cc. and increasing each subsequent dose by 0.05 cc.; it is rarely necessary to go beyond 0.50 cc. With both nicotinic acid and histamine, results are better if therapy is continued for a minimum of 3 weeks and then gradually tapered off. Results are also better if the dosage, irrespective of route of administration, is kept below the level which produces flushing. With intravenous therapy this is controlled through the rate of the drip; with subcutaneous therapy, if a given dose causes a flush, the subsequent dose is decreased to one half the flushing dose, and the schedule resumed as before.

Histaminic cephalgia responds best to dihydroergotamine by the intravenous route for the acute attack, and the subcutaneous administration of histamine as in migraine for the prevention of subsequent attacks.[14] Most cases require maintenance therapy indefinitely. The frequency of administration of histamine is gradually decreased to a point just above that at which the headaches tend to recur, and maintained there, which may be as infrequent as three times a week.

Eradication of hypertensive headache depends upon the elimination of periods of wide pulse pressure. Decreasing peripheral resistance and thus, indirectly, systolic blood pressure may achieve this result. Potassium thiocyanate is of value here.[15,16] In simple hypertensive headache, the blood thiocyanate level should be maintained between 4 and 8 mg. per hundred cc. for greatest effect. When hypertensive headache occurs in a migrainous patient, the blood thiocyanate level may have to be maintained between 10 and 12 mg. per hundred cc. before relief occurs. Occasionally one encounters hypertensive headache in a migrainous person which does not respond to potassium thiocyanate alone, but responds well to the combination of the oral administration of potassium thiocyanate and the subcutaneous administration of histamine. Potassium thiocyanate is a toxic substance and when it is being administered frequent determinations of the blood level of the drug should be made. In patients with associated renal disease, small doses of potassium thiocyanate may result in high blood levels. Other measures used in the management of hypertension, such as salt restriction and sedation, should not be omitted. The head-up bed (head of bed elevated 14 inches) is also a valuable adjunct in the prevention of hypertensive headache.

Tension headache is due to cerebral vasodilatation following a period of stress. It is often relieved by acetylsalicylic acid, and is cured by rest. Muscle tension headache is due to fatigue of the muscles of the head and neck; salicylates, heat, and massage are curative. The patient should be cautioned against keeping the head in the same position over long periods of time.

Myofibrositis involving the muscles of the head and neck, and "rheumatic headache," are different degrees of the same thing. Heat, massage, vasodilatation, and salicylates are the therapy of choice. It is important here to proceed slowly and gently with the massage, which at first may be extremely painful. It may be necessary in "rheumatic headache" to continue the therapy over a period of several months.

The head pain associated with temporal arteritis may be excruciating, and, because it is a self-limited disease, this is one of the rare instances in which opiates may justifiably be used for relief of headache. Vasodilators are indicated chiefly in the hope of preserving vision; they do not afford much relief of the head pain. Temporal arteritis is an office problem only for diagnosis; such cases warrant hospitalization.

Arteriosclerotic headache may respond to analgesics. If it does not, vasodilators by mouth or parenterally should be tried. Occasionally, histamine subcutaneously is helpful.

"Allergic" headache is often secondary to nasal congestion. When that is so, nasal decongestants during the allergy season will afford relief. In this type of headache, anti-histaminics may also afford relief and deserve trial.

A true psychogenic headache is a conversion symptom. Pharmacologic treatment of such a

headache is contraindicated. Sometimes the general practitioner knows his patient well enough, and is sufficiently deft in the psychosomatic approach, to cultivate in the patient the insight necessary for cure. At other times the patient is best served by prompt referral to a psychiatrist. The important point is not to fix the psychoneurosis further by meddlesome medicine.

This sounds more simple than it seems in practice, for two reasons. Headache patients are importunate, and most often we deal not with a single type of headache but with a mixed headache syndrome. Education of the patient, an unharassed elicitation of the headache story, and observation of the patient during the attack usually solve these difficulties. However, the management of headache still requires time and infinite patience.

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The Erythrocyte Sedimentation Rate In Normal Pregnancy And Puerperium

PRELIMINARY REPORT AND EVALUATION

Ann Gray Taylor, M.D., and Joan M. Roberts, M.D.

ELEVATION of the erythrocyte sedimentation rate in certain infectious processes is an established fact with many useful clinical applications. Its elevation during pregnancy is also an established fact, but information as to the character of this elevation, its onset, duration, alteration during infection, and return to a base level after the puerperium has been meager, and consequently the clinical application has been limited.

Inasmuch as pregnant women are susceptible to the same infections and organic diseases as are other women, and are subject to the same laboratory procedures, we considered it worthwhile to attempt a study which might show a trend for the course of the erythrocyte sedimentation rate in normal pregnancy and the puerperium. If such a trend could be demonstrated, we thought that the changes of the sedimentation rate in pregnant women who also had tuberculous, rheumatic, or pyogenic infections might then be better interpreted.

The patients in this study were taken from the prenatal and postnatal clinics of the Hospital of the Woman's Medical College of Pennsylvania, and in selecting them the following criteria were observed: All the patients had intrauterine pregnancies and were free from obstetric complications and from organic disease and were thought to be free from obvious infection, such as abscessed teeth and tonsils, upper respiratory infections, and chronic disorders, such as sinusitis. With the exception of one patient, all remained free from infection throughout pregnancy and the puerperium.

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Because of strict adherence to these criteria and the vagaries of patients' attendance, the total number of patients whose data was considered significant was only 45.

A total of 556 determinations was done, all by one individual, thus minimizing the human element of error. The maximum number of determinations done on any one patient was 34, and the minimum, 10. The initial determinations were taken anywhere from 4 to 16 weeks' gestation, and subsequent readings at 2-week intervals until the seventh month of pregnancy, when they were taken weekly. The postpartum readings were taken within one week of delivery and then at 4, 8, 12, and 16 weeks postpartum.

The method used was that of Wintrobe, and all readings were corrected by hematocrit readings on the scale devised by him.[7] Three cc. of venous blood (oxalated) was transferred by pipette to a 1 cc. Wintrobe capillary tube, and the reading was taken at the end of one hour.

The literature abounds in references to the fact that the sedimentation rate is elevated in pregnancy. DeLee[3] mentions that there is a progressive increase in normal pregnancy, but gives no figures; Fulton[5] states that "there is a marked acceleration of the erythrocyte sedimentation rate in pregnancy"; and Dieckmann[4] says that "the sedimentation rate is so rapid in normal pregnancy that it cannot be considered indicative of infection;" but specific statements of any numerical values at different times during pregnancy are noticeably few. The work of Obermer[8] is detailed,

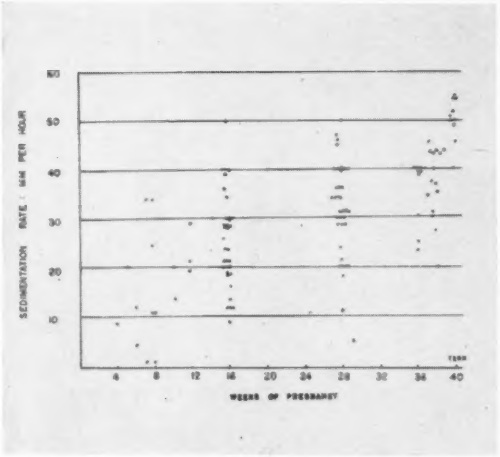

Fig. 1. Characteristics Prepartum Trends (35 patients).

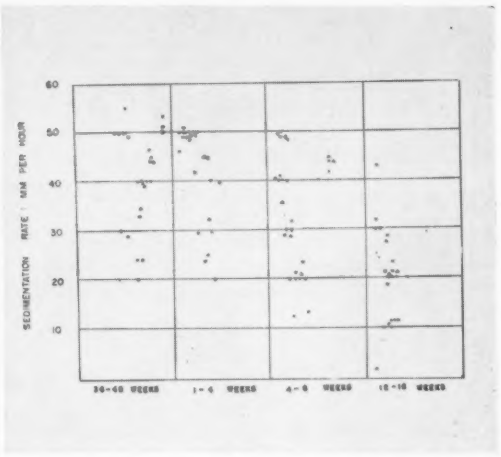

Fig. 2. Characteristic Postpartum Trends (25 patients).

but his methods of determination are not comparable to those generally used in this country. Best and Taylor[2] make the statement that the average sedimentation rate during pregnancy is 35 mm. per hour, a figure definitely higher than the figure of 9.6 mm. per hour, with a range of zero to 20 mm. per hour, set by Wintrobe[7] as the average for the healthy non-pregnant woman.

In our study the lowest prepartum reading was 2 mm. per hour and the highest was 57 mm. per hour. Of our postpartum readings, the lowest was 3 mm. per hour, and the highest 43 mm. per hour. As the latter figure was found in a patient with an acute upper respiratory infection, it was considered not a true representation. The highest figure which was considered a true representation was 32 mm. per hour.

Two scatter graphs (Figs. 1 and 2) are presented to show the general prepartum and postpartum trends. The initial readings, taken at from 4 to 16 weeks' gestation, show a wide variation, ranging from 2 mm. to 50 mm. per hour, with the greatest number of readings falling in the range of 15 to 30 mm. per hour. The readings taken at 28 weeks' gestation show a definite increase for all determinations (the lowest reading, 12 mm. per hour, the highest 50 mm. per hour, with most readings falling between 25 mm. and 40 mm. per hour). Those readings taken in the period just before term show again a constant rise: the lowest reading in this group being 20 mm. per hour, and the highest, 57 mm. per hour, with the largest number of readings falling in the range of 35 to 50 mm. per hour. The postpartum readings in general show a trend similar to the picture for the first 4 weeks. This finding is in contrast to that of DeLee[3] who found the beginning of the return to a prepregnancy level to occur on the second postpartum day. Our lowest reading in this period was 20 mm. and our highest 52 mm. In the second postpartum period, (the 4-to 8-week interval) the readings show a slow but definite downward trend (the lowest reading, 12 mm., and the highest 50 mm. per hour). In the 12-to 16-week postpartum period, the downward trend is even more evident, with the largest number of readings falling in a range of 10 to 25 mm. per hour. The lowest figure in this group is 3 mm. and the highest (true) is 32 mm. per hour.

In the light of these data, meager though they are, it seems reasonable to conclude that in the course of a normal pregnancy and puerperium there is a slow but definite increase in the sedimentation rate, which reaches its maximum in the 4-week period prior to term, maintains this high level during the 4-week postpartum period, and then falls steadily until by the sixteenth postpartum week a base level is reached or approached.

A composite graph of data from three typical patients is presented, demonstrating the gradual rise, the peak level prior to term, and the rapid falling off after the fourth postpartum week (Fig. 3).

The influence of infection on a rising sedimentation rate is also shown (Fig. 4). This patient

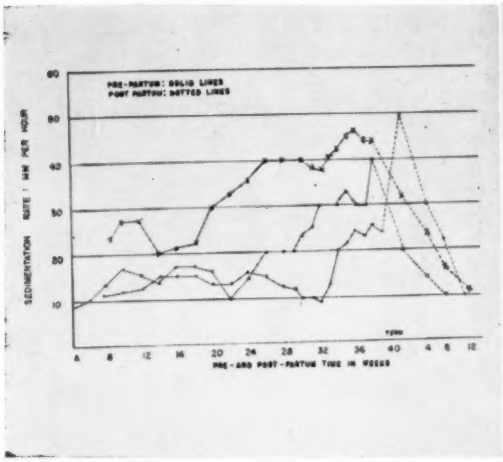

Fig. 3. Composite Graph showing Characteristic Trends (3 patients).

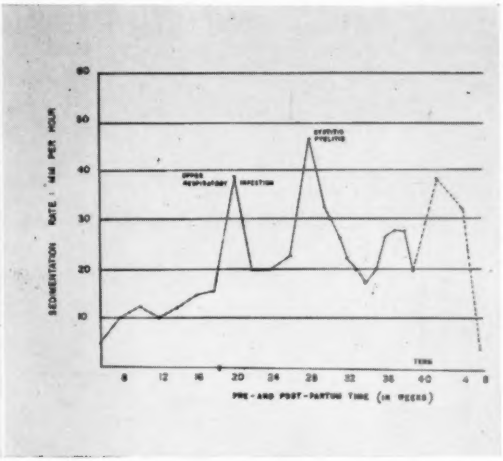

Fig. 4. Effect of Infection on Sedimentation Rate (1 patient).

had two episodes of acute infection, and determinations done at these times, the average of which is shown on the graph, demonstrate clearly the sudden and marked rise in the rate.

Conclusions

In the study of a series of 45 normal pregnant women, the following conclusions were reached:

1. The sedimentation rate is elevated during normal pregnancy and puerperium.

2. The degree of elevation varies from a few millimeters above that of the healthy non-pregnant woman to a level of 50 mm. per hour.

3. A high sedimentation rate in the course of pregnancy is not evidence of infection.

4. Infection during pregnancy will be reflected in an additional rise of the sedimentation rate.

5. The maximum elevation of the rate occurs in the 4-week period prior to term.

6. The immediate postpartum levels are as high as the immediate prepartum levels, and a drop in the sedimentation rate does not begin until about the fourth postpartum week.

7. By the sixteenth postpartum week, the sedimentation rate is approaching or has reached its prepregnancy level.

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Granuloma Inguinale Treated by Vulvectomy and Streptomycin

REPORT OF FOUR CASES

Mary DeWitt Petitt, M.D., F.A.C.S., and Carmen C. Thomas, M.D., Sc.D.

GRANULOMA INGUINALE, an infectious disease occurring most commonly in the genital region, involves primarily the skin and its superficial lymphatics. Late in the course of the disease the subcutaneous tissues and deep lymphatics are involved. Venereal transmission has not been proved. Although extragenital lesions are not so infrequent as was formerly supposed, the disease is predominantly genital. It occurs usually in the Negro race. Its cause is a bacillus, Donovania granulomatis, which can be readily demonstrated on Giemsa staining of tissue scrapings from the open lesions. It appears as an intracellular diplococcal body.

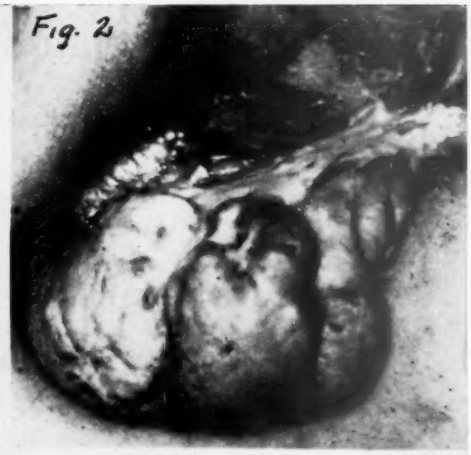
Patients in whom the disease is suspected should be subjected to adequate diagnostic studies to rule out the co-existence of other venereal diseases (syphilis, chancroid, lymphogranuloma venereum) and carcinoma. Until streptomycin became available, therapy was not too satisfactory. Tartar emetic, fuadin, and other antimony compounds produced temporary improvement, but relapses were frequent. With persistence of the chronic inflammatory changes in the vulva, tremendous enlargement of the labia often resulted, with discomfort and limitation of activity for the patient. Vulvectomy in earlier times gave poor results unless very wide excision of all affected tissue was accomplished.

Dr. Pettit is Professor of Gynecology, and Dr. Thomas is Professor of Dermatology, Woman's Medical College of Pennsylvania. This paper is from the Gynecology and Dermato-Syphilology Services, Philadelphia General Hospital.

Our purpose in these case reports is to show that modern antibiotic therapy plus vulvectomy can now produce successful rehabilitation of these patients. Streptomycin therapy was given preoperatively and postoperatively in all our cases. Penicillin was used only to treat concomitant syphilis or to clean up pyogenic infection. Reports of good results with aureomycin and chloramphenicol are now accumulating.

CASE I.

M.D., a 43-year-old Negress, had vulvar ulcers first in December, 1944. Scrapings from these ulcers were positive for Donovan bodies at another hospital. Darkfield and serologic tests for syphilis were negative, as were the Frei test and studies for Ducrey organisms. The patient was accordingly given a course of tartar emetic injections. These caused a prompt subsidence of the ulcers and the patient disappeared from the clinic. There is then a vague history of some difficulty in 1946 for which sitz baths were taken. She was admitted to the Philadelphia General Hospital in June, 1948, in a debilitated, emaciated, and toxic state. The hemoglobin was 6.7 Gm. Serologic tests for syphilis were negative. Four months previously, a mass had been noted on the vulva; this had rapidly increased in size and had bled considerably from ulcerations. On admission, both labia, the mons veneris, the clitoris, the periurethral area, and the perineum were involved. Foul smelling discharge exuded from the ulcerations. She was treated for 3 months to improve her general medical condition sufficiently to withstand an operative procedure. Sulfadiazine was given for a urinary tract infection, repeated blood transfusions for anemia, and high vitamin high protein diet with added vitamin concentrates for malnutrition and hypovitaminosis. Local cleansing and penicillin injections were used to reduce secondary infection. Streptomycin, 40 Gm. (0.50 Gm. every 6 hours for 10 days, 2 courses) was given preoperatively. Biopsy of the lesion prior to streptomycin therapy showed a histologic structure compatible with granuloma inguinale. By September, 1948, the vulvar ulcerations had healed, but the elephantiasis persisted (Figs. 1 and 2). Her general condition had so improved that vulvectomy was possible. A wide excision of the hypertrophied areas was performed. It was necessary to go through involved tissue in the periurethral and perineal areas. Streptomycin, 20 Gm., was given postoperatively. An indwelling catheter was inserted and left in for 12



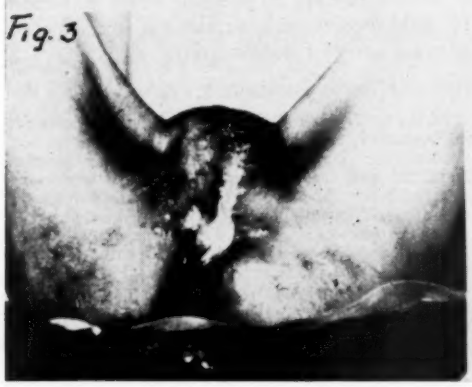


Fig. 1—(M. D.) Lesion of vulva after streptomycin therapy. Patient in lithotomy position. *Fig. 2*—Patient on right side. Note involvement of perineum and periurethral area. *Fig. 3*—Six months postoperative. Areas depigmentation of perineum. *Fig. 4*—Lateral view of Fig. 3 showing anal area. Ten days postoperative.

Fig 5a

Fig 5b

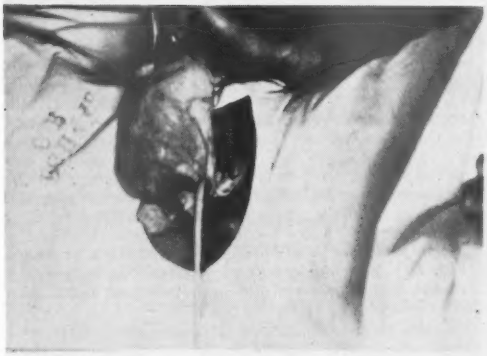


Fig 6a

Fig 6b

Fig 7a

Fig 7b

Fig. 5a—(E. S.) Preoperative status. *Fig. 5b*—Six months postoperative. Firm healing, urethral meatus clear.

Fig. 6a—(I. J.) Preoperative, catheter in urethra. Hypertrophied vulva held up in towel clip. (Notice lesion on buttock on patient's right.) *Fig. 6b*—Six months postoperative. Note healed lesion right buttock.

Fig. 7a—(H. D.) Preoperative. *Fig. 7b*—Four months postoperative.

days. The wound was closed with interrupted sutures of black silk and healed by primary union. The patient was discharged in good condition and excellent spirits 21 days postoperatively. When seen 6 months postoperatively, she had gained 30 pounds and was working and feeling well. Her urethral meatus functioned well, her vagina was stenotic but free from disease (Fig. 3). The perineal area was depigmented but smooth and asymptomatic (Fig. 4). When last seen in May, 1950, her condition remained entirely satisfactory.

CASE II.

E.S., a 28-year-old Negress, first complained of "vulvar sores" in 1944. She was treated with fuadin injections in North Carolina and the lesions disappeared. The Wassermann test is said to have been negative in 1944. Four months before admission, the sores reappeared and the vulva started to swell. On admission in August, 1948, the Frei test was negative; serologic tests were moderately positive; scrapings from the ulcer showed Donovan bodies. Tremendous hypertrophy of the vulva was found, going into the inguinal regions and into the perineum (Fig. 5a). She was given 2.4 million units of penicillin for her syphilis and 20 Gm. of streptomycin preoperatively. Wide vulvectomy with the use of lateral flaps was done and the skin was closed with interrupted black silk sutures. Two flaps on the right separated widely. It was decided not to perform a skin graft at that time because of poor condition of the tissues. Local irrigations, penicillin in large dosage, and another course of streptomycin (1 Gm. daily for 24 days) were given. The wound granulated well and healed firmly, and the patient was discharged 31 days postoperatively. She had no complaints when seen 6 months later (Fig. 5b); and she was reported in good condition one year postoperatively.

CASE III.

I.J., a 35-year-old Negress, was first seen in V.D. Clinic in February, 1947. Findings were positive for chancroid and lymphogranuloma venereum. At that time her vulvar lesions were successfully treated with sulfonamides. The serologic tests for syphilis were negative in February and doubtful in August, 1947. She returned to the Hospital and was admitted in August, 1948, because of ulceration and hypertrophy of her vulva (Fig. 6a). Scrapings from the ulcers revealed a contaminated smear, but contained bodies resembling Donovan bodies. She was in good general medical condition, and was given 2.5 million units of penicillin, and one preoperative and one postoperative course of streptomycin, 20 Gm. each. Vulvectomy was done; the patient had an uneventful convalescence and was discharged 17 days postoperatively. At 6 months follow-up, result was good (Fig. 6b). In March, 1950, she was still free from recurrence.

CASE IV

H.D., a 19-year-old married Negress had been first admitted to the Hospital in 1946, with the diagnosis of late incomplete abortion and syphilis. In 1948, she was readmitted with the chief complaint of an ulcer on the vulva, and swelling and pain in the region of the clitoris (Fig. 7a). She had first noticed this 6 months previously and had applied soaks and salves at home. A smear from the ulcer was positive for Donovan bodies. The Kahn test was strongly positive. She was given 2.4 million units of penicillin and one course of streptomycin, 20 Gm., preoperatively. This was repeated, following an easy vulvectomy. She healed by primary union and was discharged 14 days postoperatively in good condition. When examined 4 months later, she was found to be 3 months pregnant (Fig. 7b). She had a normal spontaneous delivery 11 months postoperatively and had shown no recurrence up to March 30, 1950.

Summary

It is felt that granuloma inguinale offers a very hopeful prognosis if diagnosis is made early and modern antibiotic therapy is employed. In the recurrent or neglected case, where distortion of the external genitalia has become a serious problem to the patient, surgery in addition to antibiotic therapy will give successful results. Other venereal diseases should be excluded by appropriate tests and treated if present. Biopsy will eliminate possibility of carcinoma which should always be considered in the differential diagnosis.

Typhoid Fever In A Child Treated With Chloromycetin

CASE REPORT

Jean Gowing, M.D., and Benjy Frances Brooks, M.D.

In 1948 a report of chloromycetin treatment of 10 cases of typhoid fever in adult patients appeared in the American literature.[1] Stiller[2] more recently published a careful summary of the course of typhoid fever in a seven-year-old girl whose treatment was started on the nineteenth day of illness. Because so few reports of such cases in children have appeared in the literature, the following case of typhoid fever treated with adult dosage of chloromycetin, beginning on the ninth day of illness, is presented.

A. P., a seven-year-old colored female was admitted to the hospital of the Woman's Medical College, July 26, 1949. Her complaints were abdominal pain, frequency of urination, inability to move the legs, extreme weakness, and high fever.

The illness had begun eight days previously with nausea and abdominal pain followed by diarrhea for five days. On the second day of illness the patient had mild epistaxis. On the succeeding day her temperature reached 104 F. On the fourth day epistaxis recurred and the patient complained of sore throat. After the fifth day the child had developed frequency and dysuria. The day before admission she became constipated, extremely weak, and irrational. She had no bloody stools or hematuria and did not complain of headache.

Dr. Gowing is Assistant Professor of Pediatrics and Dr. Brooks is Resident in Pediatrics, at the Woman's Medical College of Pennsylvania. This case is reported from the Department of Pediatrics, The Hospital of the Woman's Medical College, Philadelphia.

The past medical history was essentially negative. All immunizations except typhoid had been given. There had been no exposure to contagious disease.

The mother, father, two brothers, and three sisters all had diarrhea and fever at the same time as the patient.

Examination on admission revealed a well-developed, well-nourished, dark Negro female child, appearing extremely ill and talking incoherently. Her body was hot and dry, but during examination she began to sweat profusely. The only skin lesion seen was an annular lesion on the forehead. The heart rate varied from 70 to 120 per minute. A systolic murmur heard at the apex was not transmitted. The lungs were clear to percussion with an occasional slight wheeze heard on auscultation. The abdomen was soft and diffusely tender, especially around the umbilicus. Neither the liver nor the spleen was palpable. Rectal examination revealed no masses or local tenderness; there was no blood on the examining finger. Neurological examination was characterized by general muscular weakness. The remainder of the physical examination was negative.

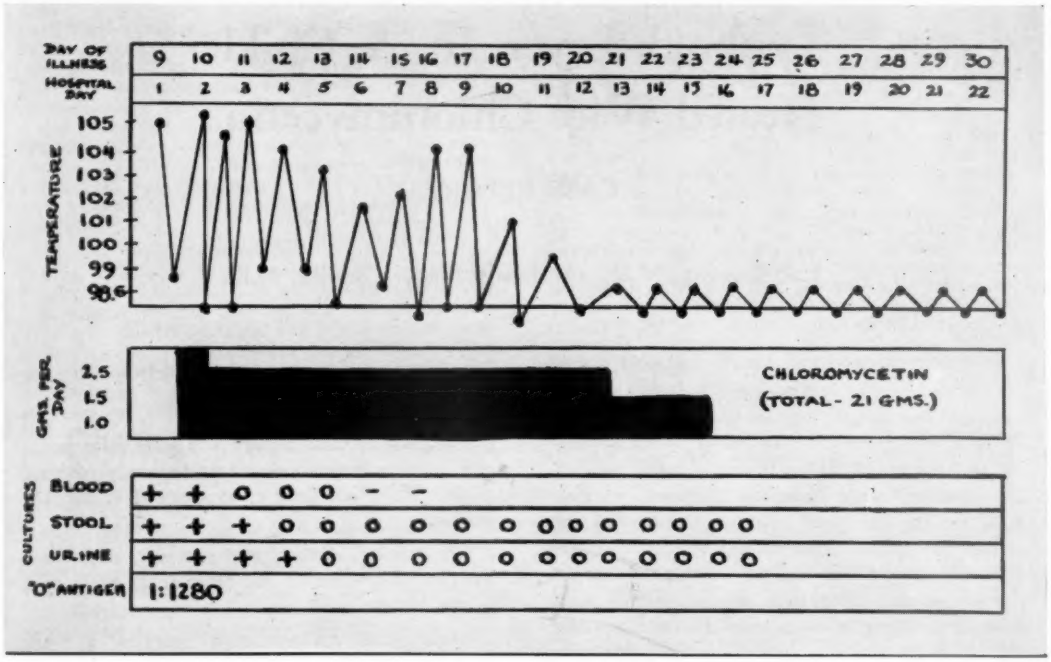
Laboratory work on admission showed the following:

Urine: Urinalysis negative, except for one or two white blood cells, three or four red blood cells, and one granular cast.

Blood Count: Hemoglobin, 6.8 Gm.; erythrocytes, 2,690,000; leucocytes, 8,260; neutrophiles, 56 percent (32 segmented, 20 stabs, 4 myelocytes); lymphocytes, 34 percent; monocytes, 8 percent; basophiles, 2 percent.

Rapid Agglutination Test:

Typhoid O	positive 4 plus dilution 1:320
Typhoid H	positive 3 plus dilution 1:20
Paratyphoid A & B	negative



Chloromycetin was started the next morning, the ninth day of illness, with 1 Gm. as the initial dose and 0.25 Gm. every two hours. The drug was continued for 14 days at a dosage of 1.5 Gm. per day, and an additional four days at 0.75 Gm. daily, as shown on the accompanying chart.

During the first 24 hours the patient continued to have high fever and chills. After 48 hours, although the temperature remained elevated, her condition no longer seemed critical, delirium and chills were ended, and appetite improved. After the eleventh day the temperature remained normal.

Supportive therapy included high carbohydrate soft diet with supplementary vitamin C and thiamine and small transfusions of 125 cc. of whole blood daily.

Stool and urine cultures were negative after two and three days respectively of chloromycetin therapy. There were no toxic reactions to the drug. The blood count gradually became normal after the transfusions. The patient was discharged on her twenty-second hospital day the thirtieth day of her illness. She continued to do well with no clinical or bacteriologic relapse up to November 28, 1949.

Summary

The administration of adult doses of chloromycetin to this child with typhoid fever of a virulent strain, caused no dramatic effect on her temperature curve. No positive cultures were obtained after the third day of chloromycetin therapy. The patient improved markedly in that delirium, chills, and dysuria subsided in 48 hours. This aspect of chloromycetin therapy has been observed by other workers.

Further trial of chloromycetin in pediatric typhoid cases seems warranted. In this instance the rapid improvement in the typical symptoms of the disease, apparent lack of toxicity of the drug, prompt sterilization of blood and excreta, and the comparatively short hospital stay were notable.

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[1]Woodward, Smadel, Ley, Green, and Mankikar, Preliminary report on beneficial effect of chloromycetin in treatment of typhoid fever, Ann. Int. Med. 29: 131, July '48.

[2]Stiller, R., Typhoid fever treated with chloromycetin, J. Pediat. 35: 85-87, July, '49.

EDITORIAL

To The New Century

ONE HUNDRED YEARS in the life of an institution on the American continent is a venerable age. It measures more than half the life of the United States. Moreover, the century we are celebrating this year at the Woman's Medical College of Pennsylvania coincides almost precisely with the life and time of the "woman's movement" in the United States.

Founded just two years after the historic meeting at Seneca Falls the College began, long before the birth of professional education for women in most of the women's colleges. Feminists like Sara Josepha Hale and Lucretia Mott worked actively to open this profession to women.

The first years of the new institution were spent in a struggle to stay alive. Although forty women matriculated when the College opened its doors, the number which continued was small; but growth was steady. The Faculty recognized early that the control of a teaching hospital was necessary and to meet this need the Woman's Hospital was, by the efforts of Dr. Ann Preston, opened in 1862. The strong urge for service to humanity which motivated the original students was deepened and broadened by Dean Rachel Bodley, first woman member of the American Chemical Society, who interpreted for her students the application of science to medicine.

These two events—the founding of a teaching hospital and the introduction of scientific and laboratory training into the curriculum—gave strength to this modern medical school of today.

The first century has demonstrated that a medical school for women can successfully train students for practice, for teaching, and for research—the three important functions of any medical school. This has been accomplished by using modest funds and facilities to the best advantage. It has been through the devotion of the alumnae and of the men and women of the Faculty and of the Board of Corporators that this educational privilege for women has been maintained.

First Woman's Medical College Building (as it appeared at the first commencement in 1850), located on Arch Stree, below Seventh, in Philadelphia.

At the beginning of this, the second century, there are many more well trained applicants than can be accommodated in our laboratories and given the careful supervision thought necessary by our Faculty. We hope to expand, not in terms of doubling or tripling capacity, but enough to admit ten more women to the entering class, which is now limited to fifty. This can be done by enlarging our laboratories, scientific and clinical, and our library—the core of basic scientific training. In the second, as in the first century, the Woman's Medical College wants to build slowly and surely that finest of all human institutions, a community of students and scholars.

MARION FAY, Ph.D., *Dean, Woman's Medical College of Pennsylvania*

ANN PRESTON

RACHEL L. BODLEY

Graduate Medical Education

At Woman's Medical College Of Pennsylvania

Eva Fernandez-Fox, M.D.

THE PROGRAM FOR EDUCATION of interns, residents, and fellows at the Woman's Medical College represents a process of evolution extending over a span of one hundred years.

The year 1950 marks the Centennial of the founding of the Woman's Medical College. Graduate training has been increasingly emphasized to keep pace with the complexities of medicine in its various phases. The available combination of an integrated medical school and hospital curriculum constitutes an ideal basis for graduate work. The College library and the pathology department with its museum are but a few of the facilities of the Medical School that are available to the interns and residents. The option of attending special student lectures and pre-clinical faculty "consultations" gives other advantages exclusive to a combined hospital and medical school.

Dr. Fernandez-Fox is Medical Director of the Hospital of the Woman's Medical College.

The Hospital of the Woman's Medical College is a general hospital having a bed capacity of 211. In the year June 1, 1948, to May 31, 1949, the number of hospital admissions was 5,969 and the number of clinic visits 26,342. The only cases not received are those of a contagious or psychiatric nature.

The House Staff consists of 6 interns and 11 residents. Interns, women only, serve a 12 months' rotating internship. Under supervision of the residents and staff, the interns are responsible for ward and private patients.

Residents, both men and women, serve in the Departments of Medicine, Surgery, Gynecology, Obstetrics, Pediatrics, and Anesthesia. Besides duties in their respective departments, they take part in the teaching of medical students and student nurses and hold a weekly conference. Under guidance of a member of the Medical Staff at this conference, the residents present papers on subjects pertaining to their specialty or interesting cases they have managed in their respective services. Residents are encouraged to use the Clinic and Hospital Record Room material for research projects.

The program of each residency or fellowship is as follows:

1. *Anesthesia*: a two-year residency. At the present time there are two residents in training under the direction and supervision of a physician anesthesiologist. They receive training in the administration of general anesthesia, regional block, obstetrical anesthesia, and resuscitation procedures. They attend medical and tumor conferences, Journal Club, and meetings of the Anesthesiology Study Commission.

2. *Gynecology and Obstetrics*: a combined three-year residency in which the individual can choose either one year in obstetrics and two in gynecology or the opposite. A fourth year can be arranged if desired, to include general surgery, additional pathology, urology, and anesthesiology. One junior and one senior resident are appointed in each of the two departments.

The obstetrics residents attend lectures given for junior and senior medical students, manikin classes, and prenatal and postnatal clinics, dissect a pelvis, and work on a research project. Training in the management of labor, delivery, and puerperal period is obtained by caring for ward and private cases.

Under the supervision of staff members, the residents in gynecology take care of ward and private cases, assist at operations, and help in the teaching of medical students. Three months are given to gynecologic pathology, and, by way of an innovation this year, the resident spent three months at an affiliated hospital on a general surgery service. A research project is required.

3. *Medicine:* a one-year residency with training in general medicine, cardiology, dermatology, neurology, and psychiatry. Some of the resident's duties are to help in the teaching of medical students and to select material for weekly medical and chest conferences which are attended by the general staff and medical students. Once a month

they conduct a mortality meeting in conjunction with the Chief of Medicine, the Pathologist, and members of the medical staff. This one-year residency is the first step in a three-year graduate program, the other two years consisting of a junior and senior fellowship. A fellowship in cardiology is also offered as a fourth year of training. Plans for a junior residency are being formulated this year.

4. *Pathology:* a one-year residency, which includes training in surgical pathology, performing autopsies, and attending classes with medical students on general pathology, gynecologic and obstetric pathology, and neuropathology. The resident also attends medical, surgical, and tumor conferences. An independent research project is required.

5. *Pediatrics*: The Department of Pediatrics provides for the training of two residents, a senior and a junior, each of whom serves a term of two years. Duties are divided between the two residents so that one is in charge of the children's wards while the other is in charge of the Newborn Nursery and clinics. Besides attending all pediatric clinics, this resident also attends clinics of dermatology; ear, nose and throat; cardiology; and child guidance. Attendance at abnormal and Cesarean deliveries is also part of her duties. The plan allows for a convenient division of services and, at the same time, gives the advantage of a graded degree of responsibility from the pediatric service of the rotating internship to Junior Pediatric Resident, to Senior Pediatric Resident. Sometime during the two-year residency, the resident spends three months in affiliation at a hospital for contagious diseases.

6. *Surgery*: A new program to include four years of training is planned. The schedule will be divided in the following way:

First year: A rotating year in which the resident will have charge of all genito-urinary, orthopedic, neurosurgery, oncology, and proctology cases in the hospital. In addition, it is planned that the surgical resident will exchange with the first year gynecology-obstetrics resident, for a period of at least three months, for experience in gynecology. During this year the resident not only will have charge of the in-patients, but will also attend and take part in genito-urinary, orthopedic, and proctologic out-patient departments.

Second year: The second year of training will be spent either at the Graduate School of Medicine of the University of Pennsylvania or at Woman's Medical College. At the College the resident will spend at least six months in pathology and a similar time in surgery, pharmacology, or physiology.

Third year: In the third year the resident will be on private surgery and have charge of all surgical private patients in the hospital. She will attend and take part in the tumor clinic, the tumor conference, and the clinico-pathological conference. One afternoon a week will be spent in gaining experience in office surgery at the private office of the Chief of Surgery.

Fourth year: In the fourth year the senior resident will have charge of all ward surgery and attend the Surgical Out-patient Department. Attendance at the tumor conference and tumor clinic will be required, and the resident will be on first call for all surgical cases admitted to the Receiving Ward. The opportunity is presented to perform or assist at ward emergency operations, to reduce and take care of fractures in ambulatory patients, and to have a large part in caring for the various acute traumatic cases that come into the Receiving Ward.

In addition, the surgical resident will take part in the Graduate Training Program of the hospital, which includes the presentation of papers, abstracts, etc. It is expected that at least one case report and one paper will be prepared during this graduate period.

The Woman's Medical College training program also sponsors fellowships in anatomy, endocrinology, gynecology, obstetrics, medicine, oncology, and radiology. Fellows take an active part in the teaching of medical students and carry on investigative problems in their respective fields. Details of the fellowships could be dealt with at length. Let it suffice to say that every opportunity is provided for guided and individual development. For instance, one of the fellows in radiology attended the Oak Ridge, Tennessee, course in nuclear physics this year. All of the graduate students have opportunity to attend and take part in the many lectures, conferences, and meetings held in Philadelphia.

Women in American Medicine

Richard Harrison Shryock, Ph.D.

IT IS AUSPICIOUS that the section on Medical History of the College of Physicians should associate itself with the history of women in American medicine, as the subject for this lecture in the series provided for by the late Dr. Kate C. Hurd-Mead. Much of the literature concerning the entrance of women into the medical profession has dealt with this as a new or experimental movement. Hence it comes almost as a shock to realize that it is now a full century since the founding of the Woman's Medical College of Pennsylvania. This, the earliest and now the only such school in the western world, may well serve as a symbol of the entire story. It is already, as things go in this country, a venerable institution; and I feel honored by this opportunity to salute it on the occasion of its centenary.

The story of women in American medicine involves chapters in the history of medicine, of women, and of American society; no one of which is intelligible save in relation to the others. To do this full justice, one should possess many qualifications; but perhaps you will be tolerant for the moment of the limited perspective of the historian. I shall not attempt to trace the actual records of individuals and institutions, since these have already been treated by Dr. Hurd-Mead and by other able medical women.[1] It would seem more pertinent to analyze topically certain of the trends and issues of the last hundred years. With this in mind, the subject can be resolved into a discussion, first, of the factors which originally favored women in medicine; second, of those which opposed them; third, of the major trends; and, fourth, of the outcomes. Much of this must be made brief, although the story is so human that there is a constant temptation to digress or to indulge in details.

Dr. Shryock is Director of the Institute of the History of Medicine, The Johns Hopkins University, Baltimore, Maryland. *This lecture was given on April 14, 1950, at the College of Physicians of Philadelphia.*

Consider, first, the factors which favored the entrance of women into medicine. American society a century ago was in a state of "transition." For centuries women had been almost completely subordinated to men under both common and statute law. This situation, whatever its hidden implications, elicited little open protest from women in such a simple, agrarian society as obtained in this country until after 1800. Colonial women lived on the farms, and their sphere was of necessity the home. Thereafter, however, the industrial revolution began to attract both sexes into the cities—where poor women made the first break with the home by entering the mills. There were also numbers of middle-class women who became teachers; while others found themselves endowed with sufficient property and leisure to become concerned about their own interests. Meantime, the so-called enlightenment of the later 1700's had encouraged a belief in the perfectibility of society by a resort to reason rather than by mere dependence on tradition or authority. This faith in "progress" produced a veritable rush of social reform which reached its high point during the 1840's and 1850's.

By this time, the calm and rational appeals of the enlightenment had been suffused with the emotion of a more romantic age and even took on something of an evangelical enthusiasm. We all recall, as examples, the temperance and anti-slavery crusades; but we overlook the many less well-known movements. "We learn from the papers," remarked Dr. William Alcott in 1835, "that the American Seventh Commandment Society, the New York Female Benevolent Society, and the Anti-Tobacco Society [all] held their annual meetings at New York about the middle of May, and that *some* of these meetings were interesting."[2] (Italics my own.)

One of these reform drives was the women's rights movement, made feasible by the economic changes mentioned but consciously directed by leaders, journals, and societies. "Ladies' magazines," demanding equal rights, had appeared in Philadelphia as early as the 1790's; and the movement was in full swing when its first convention was held in 1848. It hardly need be added that

equal educational opportunities and the right to enter the professions were among the demands of the militant minority which aided this cause. The desire of a few women to enter medicine and the support given them can only be understood against this larger background.

Feminists at large saw in the admittance of women to medicine a dramatic test case for their whole movement, and encouraged it at every opportunity. Thus Sarah Josepha Hale, editor of *Godey's Ladies Book*, remarked tartly in 1852: "Talk about this [medicine] being the appropriate sphere for man, and his alone! With tenfold more plausibility and reason, we say it is the appropriate sphere for woman, and hers alone."[3] In any case, the feminists held, women had the same rights as did men to enter a profession of their choice.

The desire for equal rights was not the only influence which impinged upon women at this juncture. Another of the now forgotten crusades was that for reform in personal hygiene. This was led in the 1840's by one Sylvester Graham, now unconsciously recalled by "Graham bread" and "Graham crackers." Besides urging dietary improvements, Graham was concerned about sex hygiene and advocated dress reform and physical exercise for women. His feminine audiences responded by organizing "Ladies Physiological Reform Societies," and daring women—notably, Paulina Wright—began to lecture to them on anatomy and physiology. This teaching of both sex and general hygiene called for medically trained women as instructors, and many of the first women who entered medicine had this objective clearly in mind. At first they lectured to voluntary groups, as had Paulina Wright; later they would be appointed to advise or direct women in schools and other institutions.

The desire to provide women for such instruction was related to a broader demand for practitioners of their sex in obstetrics and gynecology. Those seeking equal professional rights in principle, recalled indignantly that the practice of midwifery had long been "a woman's sphere." But male physicians had gradually taken this practice away from the midwives after 1780, among the native white population, in the name of more expert service. This change did not occur without some protest, which perhaps never entirely disappeared; but a more vocal reaction against it arose during the 1840's. It was proclaimed in no uncertain terms that attendance by men in obstetric cases was offensive to modesty, and that, partly for that reason, the medical results were also unfortunate. As an added argument, it was claimed that once a mother's modesty was gone, chastity would follow it.[4]

We need not linger over this picture of a universal corruption of the American home, but one thing should be pointed out. It was in this early Victorian period that middle-class, Anglo-Saxon prudery was carried to the most extreme lengths. When Paulina Wright was so brazen as to discuss anatomy before the ladies, many of them had recourse to smelling salts and there were frequent faintings. Now just to the extent that this excessive delicacy was cultivated in the "genteel female," she suffered when suddenly exposed to male practitioners. There is abundant evidence that many women avoided medical attention for serious conditions or concealed much from such doctors as they did consult, because of this embarrassment. While some physicians deplored this situation,[5] others actually gloried in it as evidence of the high moral tone of their generation.[6]

It is most puzzling, in view of the growing prudishness of Anglo-Saxon society between 1800 and 1850, that women were ever persuaded to abandon midwives. Logically, one would have expected the English and Americans to cling to them longer than did realistic Latin peoples; but actually the reverse was true. The most prudish gave up the services of their own sex most readily.

Whatever the explanation of this paradox in our social history, one way in which to meet the difficulties of the 1840's was to revive the waning service of midwives. Since the original objection to them had been their ignorance, why not undertake their serious training? Dr. Shippen had attempted this when he gave the first American lectures on obstetrics. Midwives trained under Shippen probably had as good a course as was then available in this country, and were probably still practicing as late as 1800. The following advertisement appeared in the *Delaware Gazette* of October 31, 1789:

> Grace Mulligan takes this opportunity to inform the public that she has been solicited to come to Washington to practice Midwifery; she has had the advantage of the instructions . . . of Dr. Shippen in Philadelphia better than a year, and comes recommended by him in the most flattering terms.

Schools for midwives were also set up in most European countries. One wonders, in passing, why such schools did not develop here and in England as in Continental Europe, and whether routine might not have been the better for it if

this had been the American outcome. Be that as it may, the attempt to revive their training was made by Dr. Samuel Gregory of Boston, who established there a college for midwives in 1848. In a series of exchanges with local medical bodies, he publicized the need for women in the service of their own sex.[4] This same need was voiced by the early women's medical schools and hospitals, which therefore emphasized the practice of obstetrics and gynecology. Women who desired full medical training, however, could not well support Gregory's program for the revival of midwifery. On this point they were of necessity aligned with other physicians, who urged a complete medical education for all who practiced obstetrics. Nevertheless, the obortive attempt to bring back the midwives probably aided women doctors by publicizing the sex issue in medical practice.

A minor factor favoring the entrance of women into medicine, was the low state of practice during the mid-nineteenth century. This was the era of proprietary schools, when almost anyone could be licensed after two terms of lectures, and the profession must have been full of mediocre men or worse. One senses a hope, indeed a determination, among early women leaders to improve this situation wherever possible.

The very opposition which women encountered from the profession, moreover, was in one sense a blessing in disguise, for it placed women upon their mettle. Now what was the nature of this opposition? Basically, of course, it was a man's world and men intended to keep it that way. Or one should say, rather, that *most* of them had this intention; for at every point—as in the feminist movement as a whole—there were individual men who supported the cause. These leaders and some able men who have served on the staff of the Woman's Medical College here should receive due recognition. Probably the great majority of men and a considerable proportion of women, however, opposed the presence of the so-called "weaker sex" in medicine. Fortunately, however, there was sufficient liberalism in the air to make even conservative doctors feel that explanations of this attitude were necessary.

The subserviency of women in general, and their exclusion from professions in particular, were first of all justified by traditional opinions anent differences between the sexes. Lacking our present life expectancy figures, men then cherished the illusion that females were the weaker sex and were therefore less able to stand the strain of practice. But it was upon the supposed mental differences that the opposition really concentrated. Women were said to be modest, dependent, retiring; they were lacking in courage and originality. They were, by nature, fitted for the care of the home, but disqualified for activities in more worldly spheres. In thus ascribing temperamental differences to innate nature, all the influences of the surrounding culture were ignored. Recall that this was a romantic and sentimental age, when every effort was made to render women as distinctively feminine as possible. These efforts were made, of course, in the name of "sweetness and light." Women were formed of finer and more sensitive stuff than men: it was everyone's wish to protect them from the harsher realities.

Let me quote just one of the contemporary sentimental tributes to women, in which I think you will detect an undertone of condescension in the very midst of flowery tributes. "The great administrative faculties," observed a distinguished physician, "are not found in women:

> The Forum is no theater for her silvery voice. She discerns not the course of the planets. Orion with his belt, and Arcturus with his suns are naught to her but pretty baubles set up in the sky. She composes no *Iliad*, no *Aeneid*. . . . Such is not woman's province, nature, power, or mission. She reigns in the heart. . . . Home is her place, except when, like the star of day, she deigns to issue forth to the world, to exhibit her beauty and her grace . . . and then she goes back to her home, like as the sun sinks in the west, and the memory of her presence is like a bright departed day.

All this, believe it or not, appeared in a textbook on obstetrics of 1848. At a time when phrenology was still taken seriously, this author concluded with the telling observation that: "She has a head almost too small for intellect but just big enough for love."[5]

Medical women, in the face of such comments, usually kept silent or replied with restraint. But they were sorely tried by those of their own sex who seemed willing to accept these indictments, and, as it were, to live up to them. In the first Annual Announcement of the Woman's Medical College of Pennsylvania, it was observed that girls themselves had often been deterred from an interest in medicine by the

> absurd arguments of those [women], the exercise of whose mental abilities seldom reach beyond the decorations of the boudoir and toilet, and we find that those who have been deaf to such idle protestations of delicate

> imbecility, have shed luster on Literature and Science. . . .

Those who viewed women as unfitted for professional work naturally concluded that any who attempted it could do so only by imitating the men. Dr. Alfred Stillé, in his presidential address before the American Medical Association in 1871, declared that:

> Certain women seek to rival men in manly sports . . . and the strong-minded ape them in all things, even in dress. In doing so, they may command a sort of admiration such as all monstrous productions inspire, especially when they tend towards a higher type than their own.[7]

Actually, of course, any tendency to imitate male colleagues elicited ridicule rather than admiration, a ridicule which appealed to the common distaste for mannish women and for effeminate men. As late as 1910, there was a popular impression that medical women could be recognized on the streets by dress and bearing.

There is no telling just how much ridicule of this sort handicapped women physicians. They were at a disadvantage here, because in a profession where all the norms had been set by men some imitation was inevitable. The obstacles facing women, moreover, inspired a challange only in those who were unusually resolute and determined. Since these qualities were among those usually ascribed to males, it followed almost by definition that medical women would be popularly viewed as mannish in temperament. When psychologists worked out tests for masculinity and femininity, by the 1930's, they reported that women holding the M.D. or Ph.D. degree rated high in masculinity. But one wonders just what such scales, based on general impressions of sex differences, really mean.[8] Moreover, women were almost goaded into some impersonation of men by the very arguments used against them. Informed that their sex was too delicate to undertake medical pursuits, they had to prove that they were really tough and could "take it." But this only brought down again upon them the ridicule of mannishness. They could not win either way.

Perhaps, too, the women were at a disadvantage in denying the super-delicacy of their sex by the fact that they themselves had resorted to this notion in connection with obstetrics. In this field, they were great believers in feminine delicacy, but they denied that this quality need be taken seriously when it came to their own presence in medical schools. If this was inconsistent, it was no more so than the logic of the conservatives who simply reversed the reasoning. For the latter, feminine modesty was too fine a thing to be sacrificed for medical training; but when it came to obstetrical practice, it appeared that modesty could be completely ignored.

In medicine, as in other professions, women were obviously handicapped by social inertia. The fact that all American physicians had hitherto been men made the very thought of a "doctress" seem absurd to many persons. When the first "females" entered a medical class, they must have appeared more bizarre than would today the appearance of a single male at Vassar. It was easy to believe that such women were queer persons. It is not surprising that people made fun of them, and that a little of this found its way into print. In 1874, for example, a work by one Max Adeler portrayed a professor at the Woman's Medical College in Philadelphia. This lady was such an enthusiast for science that she would administer chloroform to her husband during his afternoon naps, and then "demonstrate" him to a class disguised as a sewing circle. On the particular occasion described, however, the instruction could not be carried very far because, as the professor observed: ". . . Mr. Magruder's system was somewhat debilitated [by] . . . an overdose of chlorate of potash which she had administered in his coffee . . . for the purpose of testing the strength of the drug."[9]

It may be that the inclination to make fun of a "doctress" was not equally shared on all social levels. The genteel classes, always sensitive about the proprieties, were probably most startled by this new phenomenon. On the other hand, the early experience of the women's hospitals suggests that poor women resorted to them with little hesitation.[10] Perhaps they cared less about appearances and respectability. Or, if immigrants, they may have welcomed "the doctoring ladies" because they had already been accustomed to the services of midwives.

There was no little suspicion that doctors opposed medical women for fear of economic competition, the usual motive for suppressing a minority element. Occasionally, this matter came out into the open, as when an article in the Boston Medical Journal noted as early as 1853 that competition was becoming serious; women were already cutting in on the profits in obstetric cases.[11] In the same city Dr. Gregory, who suffered from no inhibitions, accused the doctors of desiring a male monopoly of the market. In so far as fear of competition promoted all sorts of rationalizations, it was unfortunate for women that the

medical profession was over-supplied during the last half of the nineteenth century. The ratio of doctors to population was far higher here than in Europe, and competition within the profession was already keen when women began to enter it. Had there been a dearth of practitioners, opposition to the latter would doubtless have been less, as is suggested by the somewhat contrasting experience in Russia, when women first entered the medical schools there in the 1870's. After the first medical school for women was opened in St. Petersburg (1872), nearly 700 women took medical degrees there within the one decade between 1878 and 1888.[12]

Certain other characteristics of the profession besides overcrowding operated to the disadvantage of women. Low-grade medical schools had attracted low-grade students, and the latter were viewed even in the public press as an uncouth and "licentious" lot.[13] This explains the extraordinary boorishness displayed by some student groups toward the first women who attended hospital clinics—one of the most trying experiences with which the latter had to contend. In contrast, Mary Putnam met with only the most gentlemanly consideration from fellow students at Paris in the early 1870's.

The division of the medical profession between the regulars and the sects also caused some confusion among medical women. Homeopathy, eclecticism, and other groups were then a real threat to the "allopaths," and feeling was bitter.[14] The sects, struggling for existence, were more open-minded about accepting women. An eclectic school at Rochester admitted them as early as 1849, at about the same time that Elizabeth Blackwell received from the Geneva Medical College the first "regular" medical degree granted to a woman in this country. Other irregular colleges welcomed both sexes during the 1850's and 1860's. Anxious to avoid any appearance of sectarianism, however, the Woman's Medical College of Pennsylvania cleared its original faculty of irregulars, and several other women's schools followed suit. Women were thus divided between the orthodox and the heretics, and weakened accordingly. A national organization of women homeopaths was formed in 1904, and an osteopathic group in 1914, before the regular Medical Women's National Association, now the American Medical Women's Association, was founded in 1915.

A final obstacle to the full admission of women into medicine was presented by the multiple lines of conservative defense. If one were scaled, the opposition re-formed in the rear. If women could get into schools, the hospitals were still closed; and if the latter were finally opened, internships and residencies were still denied them. When "doctoring ladies" appeared, physicians refused to consult with them and prevented their entrance into medical societies. In 1870 the Montgomery County Society opened its portals, and in 1876 the American Medical Association seated a delegate from Illinois.[15] But other societies held out longer, and, meantime, women encountered long delays in securing appointments to hospital staffs. After World War I, however, exclusive national bodies and specialist societies displayed less resistance; by 1932, for example, 69 women were members of the College of Surgeons.[16] In 1930, Dr. Catharine Macfarlane became a member of the College of Physicians of Philadelphia, the oldest medical academy in the country; and Dr. Margaret Sturgis and several other women have since been honored in the same manner. But it is clear, throughout the story, that women had to penetrate defense in depth.

From the start, women were divided among themselves as to the merits of separate schools. The latter were founded only after the established colleges had refused to accept "female" applicants. Oppostion to co-education seems to have been most intense in the conservative East, where the strongest schools were located. On the other hand, the Western Reserve College at Cleveland granted degrees to women as early as the 1850's, and the University of Michigan admitted them in 1869. The first real break in the East came with the opening of the Boston University Homeopathic College in 1874.

As soon as a few colleges became co-educational, some women urged the advantages of attending well-established institutions. Mary Putnam Jacobi, who was critical of the work given in women's colleges, insisted that admission to men's schools could be secured financially by grants.[17] This view was dramatically confirmed when Johns Hopkins accepted the funds secured by Miss Garrett in 1893, on condition that women be admitted on equal terms. The advantages of university connections were then being advocated as a means for reforming medical education, and certain women were impressed by this program. Thus, Emily Blackwell sought a merger of the Woman's Medical College of the New York Infirmary with Cornell University Medical College. When the latter refused this but itself admitted women in 1899, the former was closed as no longer necessary.[20] Similar action had meantime been taken in Boston and Chicago, so that

by 1900 the only remaining woman's medical college was that in Philadelphia. After that year, one university after another accepted women, and by 1941, only 6 out of 77 medical schools were limited to men.

This being the case, many felt that there was no longer any *raison d'être* for a woman's college. But there was another side to the matter. In the earlier decades, those supporting women's colleges had had other reasons than vested interests for doubting the desirability of co-education. In the first place, women were not always accepted on equal terms under the latter system. In some cases, they had to attend separate classes or sit behind screens. It is said that in the early days at Johns Hopkins, women students were allowed to examine men only above the neck—here male modesty entered the picture—with resulting embarrassement when the women were later assigned to men's wards. Even when these distinctions were abandoned, the advocates of separate colleges felt that they possessed distinct advantages. Notable were the greater opportunities which they afforded to women for internships, residencies, and faculty appointments. Although women have been admitted to the faculties of "co-ed" schools, particularly during the last two decades, this opportunity remains a limited one.

One other consideration which may have motivated the continued existence of the Woman's Medical College of Pennsylvania—apart from loyalty to alma mater—was concern about equal opportunities in medical education. Emily Blackwell and others may have assumed in 1900 that the schools, once they admitted women, would take care of all qualified applicants. In practice, however, the ratio of women in "co-ed" classes has averaged only from 5 to 10 percent; and one wonders whether the long-run effect of closing the women's colleges has not been to lessen the places which would otherwise have been open to women students. For those who believe that the country needs more physicians, such a trend would be of concern to national interests as well as to those of women. This was well illustrated during the recent war when, despite discrimination against women doctors in the Army, there was a sharp rise in demands for their services among the civilian population.[18]

So much for factors pro and con the admission of women into the medical profession. It has already been implied that opportunities for them were slowly expanding during the last half of the nineteenth century, particularly so after 1890. This was the result of the progress of feminism in general, and of advantages gained within medicine in particular. The first period in this story might be set between 1850 and 1870, when the women's schools in Philadelphia, New York, Chicago, and Boston were struggling for existence, and when the first women's hospitals were established. The early years were most difficult, when the schools were located in old buildings without equipment and the faculties consisted of such men as were willing to serve.

As soon as classes were graduated, certain of their members added to the staffs as professors and deans; and this made possible more enthusiastic teaching and competent administration. One may well pay tribute to both the courage and resourcefulness of these early leaders, such as Ann Preston in Philadelphia and Emily Blackwell in New York. Medical practice in itself was not an easy life; and these women added to it the tasks of teaching and administration at a time when their institutional resources were most inadequate. These were the days, according to legend, when a professor, after seeing patients in a small ward, might have to hurry to the kitchen to help prepare their food.

By 1870 it was clear that women in medicine had come to stay, but there remained much uncertainty as to their status. The next twenty years were ones of slow but continuous growth in the resources of the women's schools and in the numbers of their graduates. Teaching was improved by expanding the small faculties, by securing access to general clinics, and by enlarging the women's hospitals. The Woman's Medical College of Pennsylvania kept pace with advancing science after 1890 by introducing laboratory work in physiology and bacteriology. Like most medical schools of the period, this College had practically no endowment and no aid from the state, medical science not yet having proved so useful as to elicit from a practical-minded society either private or public support.[19] Since all professors were engaged in private practice, however, the College did not have to worry about salaries; and laboratory facilities were as yet relatively inexpensive. Had the equipment of a medical school then been half as costly as it is today, these women's colleges probably could not have been established. As it was, they were able like other institutions to struggle on with the support of tuition fees. Occasional gifts were received for special purposes, such as the Jeanes fund which enabled the College here to move to its more substantial quarters on North College Avenue in 1875.

The women's schools realized the need for

improving their position by performance rather than by argument. They were therefore anxious from the start to demonstrate the success of their graduates. In 1881 Dean Rachel Bodley of the Woman's Medical College reported that 276 had taken the degree in the course of 30 years, and that 189 had replied to her questionnaires. Most of the latter (109) were devoting themselves to obstetrics or gynecology or to a combination of these with general practice. Only three reported themselves as surgeons. The average income was almost $3,000 a year, which was not bad in view of the current value of the dollar. Over one-third were members of medical societies. On the whole this was an encouraging report for the oldest and largest of the women's medical colleges.[20]

Dean Bodley did not give the location of the graduates, but most of them were apparently practicing in northern cities. Few seem to have invaded conservative rural areas. A number had embarked, however, on a more adventurous career in the Orient. Reflecting the religious idealism of early feminist circles, they combined good works with grace as medical missionaries in India and China. Through their influence, oriental students appeared at the College in Philadelphia in the 1880's, and have continued to do so ever since.[16] The College also welcomed a few Negro students, a group which was in a peculiarly difficult position because it had to face race in addition to sex prejudice.

In 1900 Dean Clara Marshall made a report similar to that of Dean Bodley in 1881. She observed that the students were now "younger and better" than in the old days. By this time a State Medical Board had been set up (1892) and Dr. Marshall proudly announced that all her graduates had passed its examinations in the preceding year. Incidentally, she added a new criterion of merit by noting the publication record of the faculty. During the College's first two decades, only one paper had appeared; but no less than 498 had been published during the 1890's. The Dean had hopes that the faculty would now engage in original investigations, a view which reflected the research enthusiasm which had been stimulated by the Hopkins school.[21]

It is of passing interest that both Dr. Bodley and Dr. Marshall found but few graduates who had abandoned practice because of marriage—only 8 out of 189 prior to the first report. The number of marriages was not given, but apparently most women found matrimony no bar to their work. At a time when there was general opposition to the employment of married women, the doctor had the advantage of her sisters in teaching or nursing because she was self-employed. The woman in private practice could not be dismissed.[22] Although medical women were proud of a few of their number who had secured salaried positions in schools or asylums, the great majority of their group was "on its own."

It is apparent that the 1890's were a promising era for the College, with the improvement of the student body, the introduction of laboratories, and the growth of the faculty to 66, about half of whom were women. In 1895 a small College hospital was founded, and in 1905 all connections with the Woman's Hospital were severed, presumably because of personal or administrative difficulties between the two institutions. This incident spread a rumor in the neighborhood of the College that women doctors were a quarrelsome lot; but this view need not be taken too seriously in view of the long record of analogous troubles within other schools. Separation from the Woman's Hospital made clear the need for an enlarged College Hospital, which was finally met by the removal to the present building of the College and its Hospital at East Falls in 1930.

Social trends were such, after 1900, that one might have expected enlarged opportunities for medical women. Population was growing rapidly, especially in the cities; and women were securing additional employment in many fields. The public demand for medical care was growing as a result of the increasing prestige of medical science. Feminism became more or less respectable and the medical woman no longer had to be so much of a crusader. Yet the increase in the number of women physicians leveled off after 1910, at the same time that opportunities for technicians and other auxiliary workers expanded. The number of women in medical work of all kinds advanced from about 7,400 in 1900 to over 20,000 in 1930; but within this total the percentage of physicians fell from 66 in 1910 to only 40 in 1930. By 1940 the number of women physicians (including osteopaths) was 8,810, which was somewhat smaller than it had been at a high point in 1910. The percentage of women in the profession, moreover, declined from 6 in 1910 to 5.1 in 1940.

The same declines occurred among women in dentistry. Their number had risen from 25 in 1870 to 1,900 in 1920, but thereafter fell to 1,067 in 1940. The ratio of these women to the total number of dentists was 3.4 in 1920, and only 1.5 in 1940. In contrast, the number of women graduates in theology and law grew rapidly over the interval between 1910 and 1940, and their

ratio to the total in these professions also increased. These trends can probably be viewed as delayed advances into the latter fields, however, for the rate of growth has been declining in recent decades. Moreover, the ratio of women in theology and law (about 2.5 percent in 1940) remains lower than that in medicine.[22]

The more or less stationary numbers and ratios of women in medicine over the last forty years may be ascribed to several factors. First, there was a drop in the numbers of osteopaths and perhaps also of homeopaths. Second, women may have had more difficulty than men in meeting the rising costs of medical education. Third (a factor already noted) most women's schools were closed after 1900, and co-educational colleges have admitted only small ratios of women students. Unless this procedure changes, it may be that the ratio of medical women to men has been stabilized at about 5 percent. There are still inequalities which must be faced; for example, the fact that marriage at 21 is likely to end a girl's potential medical career, while it has no such catastrophic effect upon a man. Half of the women physicians of 1940 were married, in contrast to only one-third of those in other professions;[23] but the majority of the doctors probably took this step only *after* acquiring the M.D.

The apparent stabilization of the number and ratio of women physicians would seem to have implications for the one remaining women's school. This has at times enrolled as many as 10 percent of all medical students of this sex in the country. Presumably, if this college also had closed, there would have been an actual decline of women in the profession.

In concluding this discussion, I would raise two related questions concerning the entire story. First, why did the effort to admit women to medicine occur first in the United States rather than in Europe? Second, why did this movement, having originated here, encounter so much more opposition in the land of its birth than it did in most European countries?

Most social movements in the United States had a European origin; for example, the temperance and antislavery drives and even feminism itself in its general form. Why then did feminism in medicine appear first on this side of the Atlantic? One can only suggest clues. It is usually said that women received greater deference in American society, originally—perhaps—simply because they were less numerous in a pioneer population. Yet women were driven out of midwifery here and in England, but not out of this field in the rest of Europe. Perhaps their exclusion from any sort of practice here, particularly from that form for which they felt best adapted, was peculiarly irritating to ambitious women. There is no question, if European observers can be trusted, that unmarried women were far freer in the United States than in Continental Europe.[24] Once aroused, for whatever reason, American women were therefore in a better position to do something about it than were their French or German sisters.

But why, in view of these very circumstances, was opposition to women so much more intense here? Again, foreign travelers provide a hint. They observed that, while single women were very free in America, married women were more completely dominated than they were in Europe.[24] Perhaps the men tolerated freedom for their daughters in the belief that they would soon settle down, but became alarmed at such a declaration of permanent independence as was implied in professional ambitions.

A more likely explanation of American opposition, however, is the very fact that the entrance of women into medicine here was associated with a strong feminist movement. This aroused resistance of like intensity, among many women as well as men. In Continental Europe, on the other hand, feminism in general was weaker and therefore inspired less alarm. Women seem to have slipped into French, Swiss, and Russian schools almost unnoticed.[25] Except in the latter, moreover, the number of women students remained quite small and so was less likely to arouse opposition. One may conclude, therefore, with the paradoxical observation that the potency of the feminist crusade in this country explains both the pioneer character of the woman's medical movement here and the intense opposition which it encountered.

There are still Americans who believe that feminism was a well-meant but tragic mistake, that women have only been frustrated by their efforts to serve both within and outside the home. Current social ills, from divorce to juvenile delinquency, are blamed upon this double life which women have assumed or had thrust upon them.[26] It would not necessarily follow, even if all this were true, that the presence of women in the specialized field of medicine is undesirable. But many of us will feel that, in any case, it is oversimplification to blame everything on the women. Feminism, after all, was a part of that larger trend which we term democracy. Both of these movements have involved difficulties yet unsolved,

but both have also established values which we should be loath to lose. Not the least of these have been the achievements of women in general and of medical women in particular. May the Woman's Medical College of Pennsylvania, which is now the outstanding representative of this latter group, look forward to a second century of increasing usefulness!

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THE CENTENNIAL NUMBER

The Editors of the JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION again have the honor of presenting a special Woman's Medical College Number. This time we commemorate the One Hundredth Anniversary of the founding of this institution which has made such significant contributions to the health and welfare not only of this nation but of the world, for its graduates are serving in many lands.

The Editors are grateful to DR. CARMEN C. THOMAS, Guest Editor. DR. THOMAS needs no further introduction as she is well known to our readers as the able Guest Editor of the special numbers of this JOURNAL which have been contributed annually by the Woman's Medical College of Pennsylvania.—A.C.R.

Journal of the
AMERICAN MEDICAL WOMEN'S ASSOCIATION

ASSOCIATION NEWS AND ANNOUNCEMENTS

THE PRESIDENT'S MESSAGE

It is fitting and appropriate that the September Journal be the Woman's Medical College Number, as Septemmber 12 marks the beginning of another year in the life of this one-hundred-year-old institution. Founded in 1850, the Woman's Medical College of Pennsylvania has weathered the pioneer days of women in medicine and now holds the unique position of being the only medical college in the United States exclusively for women. Although it is true that all but one of the medical schools have opened their doors to women, the need for a woman's school is shown by the increasing enrollment at Woman's Medical College. In 1949, a student enrollment of 175 was the largest in forty-nine years. Fifty new students are chosen each year from approximately 350 applicants. As soon as laboratory space can be added, more students will be accepted.

This Centennial Year of the College inaugurates an expansion program. On June 15, ground was broken for the new $500,000 building. This will provide space for the nursing school and living quarters for interns, residents, and nurses, and will permit conversion of the hospital's fifth floor into additional bed space for convalescent and long-term patients. A grant from the federal government, generous gifts from alumnae, members of the American Medical Women's Association, and other friends of the College have made this possible. Those of us who are members of the Faculty especially appreciate the untiring and loyal support of the American Medical Women's Association. The Association and the College have a common purpose, namely, to create better opportunities for women in medicine. And, since this object is shared by medical women all over the world, it makes us very happy also to have the Medical Women's International Association meeting at the College in September. As this Journal is being published, we hope that many of you will be in Philadelphia taking part in the celebration of this international event and the achievements of one hundred years of women in medicine.

Elizabeth S. Baugh

WE WELCOME THESE NEW MEMBERS

California

Eloise Blinder, MD.—2367 Green Street, San Francisco; University of St. Vladimir, Kiev, 1919. Specialty: Pediatrics.

Charlotte A. Boehm, M.D.—384 Post Street, San Francisco; College of Medical Evangelists, 1927. Specialty: Pediatrics.

Mary Elizabeth Flanagan, M.D.—Station Hospital, Fort Ord. Specialty: Pediatrics.

Cecilia Louise Johnson, M.D.—632 San Luis Road, Berkeley; University of California, 1943. Specialty: Pediatrics.

Elizabeth Jolly Sibary, M.D.—4409 Brookdale Avenue, Oakland 19; Minnesota University, 1946. Specialty: Public Health.

Connecticut

Johanna Waldemar, M.D.—201 Park Street, New Haven; University of Vienna, Austria, 1926. Specialty: Dermatology.

Illinois

Mildred Ranney Jackson, M.D.—1918 Lunt Avenue, Chicago 26; University of Illinois, 1940. Specialty: Pediatrics.

Massachusetts

Inez M. Currie, M.D.—7 Myrtle Avenue, Webster; Tufts College Medical School, 1917.

Marie A. DeLuca, M.D.—318 Union Avenue, Framingham; Kansas City University, 1929. General Practice.

Marion W. Perry, M.D.—88 Scotland Road, Reading; Boston University, 1936.

K. Frances Scott, M.D.—32 Gothic Street, Northampton; Rush Medical College, 1917. Specialty: College Health Service.

New Jersey

Ethel C. Lawner, M.D.—25 Kensington Avenue, Jersey City; New York Medical College, 1945. Specialty: Internal Medicine.

New York

Louise E. Carter, M.D.—527 West 143 Street, New York 31; Meharry Medical College, 1944. General Practice.

Letizia C. Ciaramelli, M.D.—149 East 40 Street, New York 16; New York Medical College, 1942. Specialty: Internal Medicine.

Maria K. Hoefer, M.D.—147 East 50 Street, New York; University of Berlin, 1931. Psychiatry.

(Continued on following page)

Opportunities for Women Physicians

RESEARCH IN DISEASES OF THE HEART

American Heart Association is now accepting applications for Research Fellowships, Established Investigators, and Grants-in-Aid.

Applications for Research Fellowships and Established Investigators will be accepted up to September 15, 1950. Applications for Research Grants-in-Aid, including grants to basic sciences, may be filed up to December, 15, 1950.

Fellowships for Established Investigators may be granted for a five-year period at a minimum stipend of $5,000, with an annual increase of $500. They are open to superior individuals of proven originality, with the degrees of Doctor of Medicine, Doctor of Philosophy, or Doctor of Science, or equivalent degree, who are interested in making a career in research.

Research Fellowships are granted for a one-year period, with a stipend ranging from $3,000 to $4,300. They are open to graduates of approved medical or graduate schools who are interested in research and intend to follow an academic career.

Grants-in-Aid are available to non-profit institutions possessing the requisite basic facilities for research and having the necessary experienced investigators on their staffs. They are designated for a specified program of research.

Information and application forms may be obtained from Dr. Charles A. R. Connor, Medical Director, American Heart Association, 1775 Broadway, New York 19, N. Y.

PUBLIC HEALTH IN MISSISSIPPI

The public health program in Mississippi is interested in receiving applications from women physicians who may be interested in entering this field of work.

Mississippi has twelve new health department buildings, and a large number of new hospitals are now under construction. The salary schedule of the Mississippi State Board of Health is among the top ten in the nation. The climate is ideal and living costs are reasonable. For information write to Dr. Felix J. Underwood, Executive Secretary, Mississippi State Board of Health, Jackson 13, Mississippi.

NEW MEMBERS *(Concluded)*

Pennsylvania

Florence C. Slater, M.D.—6200 Wayne Avenue, Philadelphia 44; Woman's Medical College of Pennsylvania. Specialty: Obstetrics and Gynecology.

Washington

Hannah Johnson, M.D.—1215 Seneca Street, Seattle 4; University of Nebraska, 1923. General Practice.

UNITED STATES CIVIL SERVICE COMMISSION

The closing date for acceptance of applications for examination for appointment of Medical Officers at St. Elizabeth's Hospital, Washington, D. C., has been extended as follows: for Medical Officers (Rotating Intern), applications will be accepted until October 31, 1950. For Medical Officer (Psychiatric Resident, Surgical Resident, and General Practice Resident), applications will be accepted until further notice. For further information and for applications, apply to Committee of U. S. Civil Service Examiners, St. Elizabeth's Hospital, Washington 25, D. C.

UNITED STATES PUBLIC HEALTH SERVICE

A competitive examination for appointment of Medical Officers in the Regular Corps of the United States Public Health Service will be held on October 9, 10, and 11, 1950. Applications must be received no later than September 11, 1950.

Appointments will be made in the grades of Assistant Surgeon (equivalent to Army rank of First Lieutenant) and Senior Assistant Surgeon (equivalent to Captain). In making assignments, consideration is given to the officer's preference, ability, and experience; however, all commissioned officers are subject to change of station and assignment as necessitated by the needs of the Service. Appointments are permanent in nature and provide opportunities to qualified physicians for a life career in clinical medicine, research, and public health. Applicants who successfully complete this examination may ordinarily expect appointment as soon as they become eligible.

Requirements (both grades): United States citizenship. At least 21 years of age. Graduation from a recognized school of medicine. Applicants for Assistant Surgeon must have had at least seven years of educational training and professional experience subsequent to high school, and for Senior Assistant Surgeon, at least ten years of such training and experience.

The examination will include an oral interview, physical examination, and written objective tests covering the professional field. Application forms and additional information may be obtained by writing to the Surgeon General, United States Public Health Service, Federal Security Agency, Washington 25, D. C., Attention: Division of Commissioned Officers.

OPPORTUNITIES FOR LECTURING AND RESEARCH ABROAD UNDER THE FULBRIGHT PROGRAM FOR 1951-52

Medicine, Public Health, and Related Fields

(The closing date for submitting applications is October 15, 1950.)

1. Approximately 300 awards for United States citizens to serve as visiting lecturers or to engage in research in institutions of higher learning abroad during the academic year 1951-52 have been announced by the Department of State under the provisions of Public Law 584 (79th Congress), the Fulbright Act.

Many of the awards are open to applicants in medicine and the various medical specialties, public health, nursing, dentistry, and the basic sciences. Countries now participating in the program are Australia, Belgium-Luxembourg (including the Belgian Congo), Burma, Egypt, France, Greece, India, Iran, Italy, Netherlands, New Zealand, Norway, the Philippines, Turkey, and the United Kingdom, including the British Colonial Dependencies.

2. In addition to the large number of awards offered without limitation as to subject or sponsoring institution, attention is called to the following specific opportunities in medicine and related fields at certain designated institutions abroad:

Belgium-Luxembourg

Pharmacodynamy: An excellent opportunity exists at Ghent University for research in this field, particularly on problems of high blood pressure, under the guidance of Professor Corneille Heymans, a Nobel prize-winner.

Egypt

Pediatrics: The faculty of medicine of Fouad I University, located in Cairo, Egypt, has expressed a strong desire to receive a visiting professor in pediatrics. While details regarding the lectureship have not been received, it is presumed that the recipient of the award will be expected to participate both in the instruction at the medical school and in the activities of the Fouad I Children's Hospital in Mounira.

Greece

Surgery, Anesthesiology, or Pediatrics: The University of Salonika has repeatedly indicated an interest in an American visiting professor in one of the medical specialties and has suggested the above fields as especially appropriate to its needs.

Physical Therapy: Training in physical therapy is in the course of development in Greece under the joint auspices of the Greek Ministry of Hygiene and the Medical Faculty of the University of Athens. An award is offered for a visiting lecturer who would be expected to take a leading part in planning the curriculum in physical therapy and in giving instruction. Applicants need not have a degree in medicine but should have had advanced training in physical therapy and a background of administrative and teaching experience.

Italy

Medical Research: Excellent facilities exist in Italy for research in certain branches of medicine. Awards are offered for research on *cancer* at the Institute for Cancer Research in Rome; for research on *tuberculosis* at the Forlanini Institute and Hospital in Rome; and for research in *nutrition* at the Superior Institute of Health in Rome.

Treatment of Cerebral Paralysis and Nervous Lesions: The Institute for Nervous Diseases in Milan is establishing, with the cooperation of other hospitals, a clinic for the treatment of cerebral paralysis and an out-patients' consultation center for children. The Institute feels that a group of Italian therapists should be trained in the latest American methods, which are not understood practically in Italy. This object can be most effectively achieved through instruction and demonstration by a skilled American therapist.

New Zealand

Internal Medicine: The Medical School of the University of Otago trains all New Zealand medical students. The School is well equipped, active in research and would welcome a visiting lecturer in Medical Neurology or Endocrinolgy.

Norway

Anesthesiology: The University of Bergen would welcome a visiting lecturer in anaesthetics with special competence in the use of drugs in child-birth.

Pharmaceutics: The University of Oslo provides excellent facilities for advanced research in this field.

Philippines

Anatomy: The College of Medicine of the University of the Philippines benefitted greatly from the assistance of a Fulbright professor in pathology during the academic year 1949-50 and has recently requested similar assistance for the Department of Anatomy. The visiting lecturer would be expected to teach up to nine hours a week in general and special courses in anatomy and devote a portion of his time to research in vitamins and such other subjects as he might wish to investigate. The academic year begins in the Philippines in late June.

United Kingdom

Industrial Hygiene: An award is offered at Queen's University, Belfast, for a visiting lecturer in Industrial Hygiene.

Other Opportunitiess Most of the awards offered for lecturing and research in the United Kingdom are unrestricted as to subject or receiving institution. The United States Educational Commission in London reports that, in the field of medicine, special facilities for research or an interest in receiving American lecturers exist at Birmingham, Bristol, Cambridge, Edinburgh, Leeds, Liverpool, London, Manchester, Oxford, Sheffield, and the Welsh National School of Medicine.

British Colonial Dependencies

Tropical Medicine: Extensive facilities for research in tropical medicine are found in a large number of colonial universities and specialized research institutions including the universities of Malta, Hong Kong, and Malaya; the university colleges of Ibadan and the West Indies; Makerere College, Uganda, East Africa; East African Veterinary Research Organization in Kenya, East African Tsetse and Trypanosomiasis Research and Reclamation Organization in Tanganyika, Uganda Yellow Fever Institute, Insecticides Research Unit in Tanganyika, West African Institute for Trypanosomiasis Research in Nigeria, Nigeria Yellow Fever Institute, Colonial Microbiological Institute in Trinidad and the Institute of Medical Research at Kuala Lumpur, Malaya.

3. The awards are made under Public Law 584 (79th Congress), the Fulbright Act, which authorizes the Department of State to use certain currencies and credits acquired through the sale of surplus property abroad for programs of educational exchange with other nations. Awards are ordinarily made for one

(Concluded on following page)

News of Women in Medicine

The Sugar Research Foundation, Inc., awarded a prize of $5,000 to Drs. Carl and Gerty Cori of Washington University, St. Louis, Missouri. The Drs. Cori, a husand-and-wife team, have worked on problems of carbohydrate metabolism in the animal body.

Dr. Marie Pichel Warner of New York City participated in a Conference on the Testis and Ovary, Eggs and Sperm, sponsored by the Committee on Human Reproduction of the National Research Council in Behalf of the National Committee on Maternal Health, Inc. Dr. Warner also recently completed a series of three talks on "Medical Problems of Marriage, Fertility and Sterility" to the intern and resident staffs of the Beth David Hospital in New York City.

The $2,500 annual Achievement Award of the American Association of University Women was conferred on Dr. Elizabeth C. Crosby, Professor of Anatomy at the University of Michigan Medical School. Dr. Crosby was cited for her achievements in the field of neuroanatomy. Her studies of the midbrain and cerebral cortex in the primates, including man, have won for her an international reputation. In 1939-49, Dr. Crosby was invited by the University of Aberdeen in Scotland to organize the first course in histology and neuroanatomy in that institution.

OPPORTUNITIES UNDER FULBRIGHT PROGRAM

(Concluded from preceding page)

academic year, although in exceptional cases applications will be considered for periods of not less than six months. Grants for teaching or research usually include round-trip transportation for the grantee, a maintenance stipend, including certain allowances for dependents, and a small supplemental allowance for travel and equipment purchasable abroad, if necessary. The grants are made in the currency of the country to which the grantee is going and are not convertible into dollars.

4. No award will be made for teaching or research in more than one country in any one year and only one application may be filed each year. Applicants may indicate an alternate country, however, if the proposed activity can be satisfactorily completed in more than one country. In case he cannot be accommodated in the program of the country of his first choice, he may be considered for the alternate country named.

5. The closing date for filing applications for awards for lecturing and research for the academic year 1951-52 is October 15, 1950. Requests for application forms and for further information concerning opportunities for visiting lecturers, research scholars, and specialists should be addressed to the Committee on International Exchange of Persons, Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington 25, D. C.

Dr. Margarete Steinthal of the City Health Department, Stuttgart, Germany, is one of twenty German physicians and scientists who have arrived in the United States for three months of training under programs supervised by the Division of Internal Health. Dr. Steinthal will study maternal and child health, school health and communicable disease control.

Woman's Medical College of Pennsylvania has received a bequest of $10,000 from the estate of William Edward Mead, to be combined with a bequest of like amount from the estate of his wife, the late Dr. Kate Campbell Hurd-Mead of Haddam, Connecticut, "the income to be used toward a lectureship on the history of medicine to be known as the Kate C. Hurd '88 Fund." In addition, Dr. Mead left her library of books and pamphlets on the History of Women in Medicine to the college.

Dr. Zira DeFries of New York City was recently appointed Instructor in Neurology at Columbia University College of Physicians and Surgeons, and Assistant Attending Neurologist at Presbyterian Hospital, where she is in charge of Psychiatry at the Children's Epilepsy Clinic.

Dr. Selma Weiss of Newark, New Jersey, was elected president of the New Jersey Diabetes Association. Dr. Weiss has announced that she will devote her administration to improvement of conditions of employability and insurability of diabetics.

The Psychoanalytic Division of the Department of Psychiatry of New York Medical College, Flower and Fifth Avenue Hospitals held a symposium titled "Feminine Psychology: Its Implications for Psychoanalytic Medicine." Six papers were read by prominent psychiatrists, including Dr. May E. Romm of California and Drs. Clara Thompson, Kate Frankenthal, and Melitta Sperling of New York.

Co-editors of Japan's first birth control magazine, the *Japan Planned Parenthood Quarterly* are Dr. Fumiko Yamaguchi Amano and her husband, Dr. Kageyas W. Amano, of Tokyo. This magazine is the organ of the Japan Birth Control Institute, founded by the Amanos in 1947.

At the annual meeting of the American Diabetes Association Dr. Mary B. Olney of Berkeley, California, spoke on "Practical Aspects of Juvenile Diabetic Clinic Management." At the same meeting Drs. Helen E. Martin, Maxine Wertman, and Peter Hillier of Los Angeles discussed "Potassium Deficits in Diabetic Acidosis."

The New York City Department of Hospitals has named Dr. Elaine P. Ralli Director of Outpatient Services. She has been associated with Bellevue Hospital for more than twenty years. Since 1928 Dr. Ralli has been in charge of the metabolism clinics of the Third Medical Division at Bellevue Hospital.

One of the features of the 1950 Chicago Fair is a series of "Living Pictures in Tableaux." "Great Women of Chicago" will be shown in these tableaux. Dr. Bertha Van Hoosen was selected as one of the women to be so honored.

On July 1, Dr. Dorothea Tolle retired from municipal hospital service, thus ending thirty-one year's work among communicable ailments. She became superintendent of Willard Parker Hospital in New York City in 1930 and she has guided that hospital through two decades of great change and improvement in the control and treatment of communicable diseases. In 1947 it was Dr. Tolle who, after examining a patient brought to her hospital, sounded the alarm for the smallpox epidemic. Her successor, Dr. Eva S. Vandow is now Deputy Medical Superintendent of City Hospital on Welfare Island, New York.

Dr. Ruth E. Boynton has been named President of the Minnesota State Board of Health. She has served as Director of the Student's Health Service at the University of Minnesota since 1936 and has been Professor of Preventive Medicine and Public Health since 1938.

Dr. Elizabeth K. Rose is Chief of the Division of Child Hygiene of the Department of Health of Philadelphia. She is Assistant Professor of Pediatrics at the University of Pennsylvania School of Medicine.

Dr. Mary A. Price of Armour, South Dakota, was awarded the North Central Region Postgraduate Fellowship of the Soroptomist Clubs. She will take postgraduate work in obstetrics at Cook County Hospital in Chicago.

The first in a series of institutes planned to bring modern mental health principles into New York State's public health program was held at Albany Medical College recently. The institute was sponsored by the Department of Preventive Medicine of Albany Medical College and the New York State Department of Health. Among the visiting staff members was Dr. Mary E. Mercer, Assistant Professor of Psychiatry in Pediatrics at Cornell Medical Center in New York City. Also participating were Dr. Ethel Cermak, Dr. Marjorie F. Murray, and Dr. Lenore Sportsman of Albany, who conducted demonstration interviews with clinic patients.

Dr. Dorothy M. Weeks, Chairman of the Commitee on International Grants of the American Association of University Women, reports that $250,000 spent on aid to women scholars in formerly occupied countries brought rich results. As a typical example, she cited Dr.. Ruth Weglius of Finland who studied hematology at the University of Colorado in 1948-49 and is now on the staff of New Children's Hospital in Helsinki, the only specialist in her country in her field. Dr. Weeks also announced that three women doctors will come to us this fall on association study grants. They are Dr. Anni Sappanen of Finland, Dr. Gerda Seidelin of Denmark, and Dr. Anneliese Hitzenberger of Austria.

At the first conference of gerontology, held in Liege, Belgium, Dr. Eeva Jalavisto reported on a study of the birth and death records of 1,800 Swedish and Finnish men and women. She stated that the younger the mother at the time the baby is born, the greater is the life expectancy of the infant. Dr. Jalavisto is Professor of Physiology at the University of Helsinki.

At the June 28 report meeting of the New York Infirmary Building Fund, one of the speakers was Dr. Wilhelmina Ragland, Director of the Infirmary's Obstetrical Department. Dr. Ragland has been on the hospital staff for the past 41 years. She gave a history of the department over that period of time, stressing the fact that the Infirmary's infant and maternal mortality rate has been consistently lower than city or national rate.

The Cleveland Branch sponsored a luncheon for medical women at the Hallenden Hotel, in Cleveland, during the Annual Meeting of the Ohio State Medical Association in May.

The Quadrangle Dormitory, to be called The Sanger House, was dedicated May sixth at the Oklahoma State University at Norman. It is named for Dr. Winnie M. Sanger, Oklahoma City's first woman physician, and honors in all sixteen prominent women of Oklahoma. Dr. Sanger, who is the only living member of this group, served in the health department of the University from 1925 to 1929. She has also been president of the Oklahoma State Federation of Women's Clubs.

(This department will be pleased to receive news items of general interest. Please send such items to the News Editor, Marcelle Bernard, M.D., 625 East 211 Street, New York 67, New York.)

Marcelle Bernard, M.D.
News Editor

BOOK NOTICES

(Editor's Note:—These reviews represent the individual opinions of the reviewers and not necessarily those of the members of the Editorial Board of the JOURNAL.)

ANXIETY IN PREGNANCY AND CHILDBIRTH. A Psychosomatic Medicine Monograph. By Henriette R. Klein, M.D., Associate in Psychiatry, Columbia University College of Physicians and Surgeons, New York; Howard W. Potter, M.D., Professor of Psychiatry, Long Island College of Medicine, Broklyn, N.Y., and Ruth B. Dyk, M.S., Research Department, New York City Youth Board. 111 pp. Price, $2.75. New York: Paul B. Hoeber, Inc., 1950.

This monograph is concerned with the psychological and psychosomatic aspects of pregnancy and labor. The material is presented in four chapters and a summary.

In the first chapter the technique of investigation is described in detail. The study is based on observations made on 27 primiparous patients of marginal social and unstable economic status. Most of them had grown up in unstable environments, and marital uncertainty prevailed in the group. In the second chapter changes in attitudes during pregnancy and labor are discussed. The third deals with anxieties proper which occur in most cases, usually in the third trimester. The type of anxiety appears to be greatly influenced by experiences of persons with whom the patient identifies herself. In the fourth psychosomatic aspects of pregnancy and labor are discussed. Attitudes during pregnancy, maturity, and the degree of social adaptation appear to influence the reaction of the woman during labor. Histories are given for each case, and there is a short bibliography.

This study was carried out with great zeal, thoroughness, and with deep understanding and acute observation of behavior patterns. However, the subjects are rather small in number and do not represent an unbiased sample of the population. It seems to the reviewer that a distinction should be made between reality oriented anxiety, and anxiety caused by the pregnancy as such. The subjective meaning of pregnancy and labor should vary with the experiences of the patient's friends and relatives from whom she derived her information. Projective techniques may be useful as corroborating indices of anxiety. The generalizing conclusions of the authors should be confirmed by further studies. Nevertheless, as a pilot study this monograph is of great value. It offers many stimulating ideas on which further research can be based. One agrees emphatically with the suggestion of the authors that the obstetrician should exercise more emotional understanding of the woman during pregnancy and labor.

—Martha Brunner-Orne, M.D.

DELAYED UNION IN FRACTURES OF THE LONG BONE. (Jacksonian Prize Essay.) By Kenneth W. Starr, O.B.E., E.D., M.B., B.S. (Syd.), M.S. (Melb.), F.R.C.S. (Eng.), F.A.C.S., F.R.A.C.S.; Surgeon, Sydney Hospital, New South Wales; Visiting Surgeon, Concord Military Hospital; Consulting Plastic Surgeon, Faculty of Dentistry, Univ. of Sydney. 215 pp., with 106 illustrations, 3 color plates, and 4 tables. Price $9.00. St. Louis, The C. V. Mosby Company, 1947.

This excellent reference work attempts, in the words of the author, "a reversion to the scientific approach of our surgical predecessors." The book is divided for convenience into three parts. Part I, "The Morphogenesis of Bone," reviews in great detail the known but often overlooked basic facts of restoration of bone. These facts are considered structurally, chemically, and cyclically, and the relationship between structure and function is stressed. Part II, "The Healing of Fractures," deals with the individual constituents of bone involved in repair and the collective process of healing. Parts I and II, while of definite and proved value, will be of most interest to the student of physiology and to the specialist in orthopedics, to whom such knowledge is essential in dealing with difficult or complicated bone injuries.

Part III will be of general interest to the practitioner who must handle some fractures and to the surgeon who deals with simple traumatic problems. It discusses the etiology and treatment of delayed union, practically and in detail, with many valuable suggestions from the author's personal experience.

This work is compiled from the knowledge gained in the treatment of 1,000 hospital fractures, many of them from gunshot wounds. It is authoritative, concise, and valuable for reference.

—Annella Brown, M.D.

HAEMOLYTIC DISEASE OF THE NEWBORN. By M. M. Pickles, D.M., Nuffield Graduate Assistant in Clinical Pathology, Radcliffe Infirmary, Oxford. 181 pp., with 6 illustrations, 19 tables, and 15 graphs and charts. Price, $4.50. Springfield, Illinois, Charles C. Thomas, Publishers, 1949.

In her monograph on hemolytic disease of the newborn, Pickles has registered the basic facts with regard to the Rh antigens and antibodies in their relationship to the hemolytic mechanism in the offspring, and has given a detailed survey of recent knowledge in this field. The book includes a thorough study of the relation between immunization of the mother and clinical and pathological changes in the child and presents evidence that the development of hemolytic disease is not directly correlated to the degree of isosensitization but may be acquired as a reaction to injury by the immune agglutinins.

In trying to simplify the picture that has become more and more confused and controversial through the introduction of a great number of subgroups this monograph will be of distinct value not only for the hematologist but even more so for the obstetrician and pediatrician who are not always familiar with complicated laboratory techniques.

—M. Anne Marie Cassirer, M.D.

AETIOS OF AMIDA. The Gynaecology and Obstetrics of the VIth Century, A.D. By James V. Ricci, M.D., Clinical Professor of Gynaecology and Obstetrics, New York Medical College; Director of Gynaecology, City Hospital, New York; Consultant in Gynecology and Obstetrics, Beekman-Downtown Hospital, New York; Fellow of the New York Academy of Medicine. Cloth. 215 pp. Price, $7.00. Philadelphia and Toronto, The Blakiston Company, 1950.

This book deals entirely with obstetrics and gynecology of the past. Part I is an historical sketch describing the translation into Latin, during the sixteenth century, by eminent medical writers of that day, of the Medical Encyclopedia written in Greek during the sixth century by Aetios of Amida. This encyclopedia compiled all medical knowledge up to the time of its writing, and its last book, the sixteenth, was concerned with Obstetrics and Gynecology. Part II is the complete translation into English of the Latin edition, by Cornarius (1542) of this last

book, and is annotated to present the ideas of other Latin translators where they differ from from those of Cornarius. Many of the topics discussed are familiar to us, and others such as Strangulation or Suffocation of the Uterus, and Uterine Fury have disappeared from present books in this field. Each disorder is described as to the anatomy and normal function of the part, the etiology and symptomatology, and treatments. It is the last section that is most interesting, as many old drugs and remedies are described, including mystical charms. Following the translation, the author includes a list of substances used in treatments by Aetios of Amida with a description of the properties when known, and also a list of Roman weights then in use. The book will be of interest to any obstetrician-gynecologist for comparison with present day teachings which it brings to mind, or to anyone interested in the history of medicine.

—Isabelle Money, M.D.

CARDIOGRAPHY. By William Evans, M.D., D. Sc., Physician to the Cardiac Department of the London Hospital; Physician to Out-Patients of the National Heart Hospital. 132 pp., with 211 figures. Price, $6.75. St. Louis, The C. V. Mosby Company, 1948.

This small volume was written by a London physician of note. It is divided into two sections: Electrocardiography and phonocardiography. It is particularly valuable, because of its simplicity and clarity of explanations, for medical students, house officers, and busy practitioners who need a ready handbook. The author has presented only the most commonly encountered electrocardiographic tracings and has chosen not to deal with the unipolar leads which, in his opinion, have not been proved to be superior to the CR leads, which he prefers. The book is particularly valuable in the emphasis placed on teaching the reader how to interpret electrocardiograms. The figures are printed neatly and are viewed conveniently with the legends. There are 38 test electrocardiograms at the end of section one, with proper answers.

The second part, that dealing with phonocardiography, a technique which has become increasingly useful in the auscultation of the heart, particularly in the timing of murmurs, is thorough, easily understood, and can be read with profit. All of the sound recordings are correlated with electrocardiograms. In addition to the description of murmurs arising from aortic and mitral valvular disease, the author discusses in a differential way the murmurs due to coarctation of the aorta, pulmonary stenosis, septal defects, and patent ductus arteriosus. The systolic murmur of hypertensive heart disease is described. The significance of split heart sounds and triple heart rhythm is discussed. It is obvious that the author has had excellent clinical experience in cardiology with which he has supplemented in a wise manner such diagnostic functions as electrocardiography and phonocardiography. This book would be a good investment for anyone who is interested in clinical medicine.

—Constance Curtiss, M.D.

MENSTRUATION AND ITS DISORDERS. Proceedings of the Conference held under the auspices of the National Committee on Maternal Health. Edited by Earl T. Engle.. 358 pp. Price, $6.50. Springfield, Illinois, Charles C. Thomas, Publishers, 1950.

This is a report, edited by Earl T. Engle, of the annual conference of The National Committee on Maternal Health, a conference made possible by a grant from the Ortho Research Foundation. The report deals with the chemical, enzymatic, and other metabolic processes within the endometrium, and increases our knowledge of conditions necessary for the implantation of the fertilized ovum. Interesting studies on the effect of the steroid sex hormones on the alkaline phosphatase in the endometrium are reported, as well as a cytochemicalanalysis of various enzymes in the cervix and endometrium. A report on the distribution of lipase in the generative tract is also given. One of the most interesting chapters is that on abortive human ova and associated endometria, reporting detailed studies by Hertig and Rock of 24 early pregnancies found in 110 cases in which the uterus was removed for therapeutic reasons. Their evidence indicates that the fertilized ovum is itself defective, rather than its environment, and is the main factor in the production of spontaneous abortion.

Several chapters are devoted to studies of endometrial blood vessels and their relation to menstrual flow. Two other chapters present studies on menstrual toxins by Olive and George Van Smith. A fine paper on humoral factors related to peripheral vascular homeostasis by Shorr and Zweifach is presented. Te Linde in his report concludes that various types of endometrium may be associated with excess "functional bleeding." The question of atypical secretory phases and abnormal basal temperature is discussed by Buxton.

This book will be valuable to the gynecologist because it reports the large amount of research work being done to explain many of the mysteries which still remain in the problems of menstruation. It is by such cooperation in the fields of histology, biochemistry, pathology, and gynecology that the answers to these problems will be found.

—Ruth E. Ewing, M.D.

ALLERGY IN RELATION TO OTOLARYNGOLOGY. By French Kelly Hansel, M.D. (American College of Allergists Publication). 77 pp., illust. Price, $2.50. Milwaukee, Wisconsin, Bruce Publishing Company, 1949.

This brief volume should prove of value to medical practitioners outside the special fields of allergy and otolaryngology, but it offers little of new information or of interest to specialists in these fields. It explains and emphasizes the need for treatment of the allergic patient from two separate points of view, which must, however, work closely together. The section on interpretation of nasal smears is well done and the illustrations are well chosen and well reproduced. The current psychosomatic trend is discussed, as it should be in evaluating a group of patients in whom that approach is always important.

—Suzanne Howe, M.D.

IMPORTANT NOTICE

MID-YEAR BOARD MEETING

The Time

November 10-12, 1950

The Place

Jung Hotel

New Orleans, La.

Current Publications of Women in Medicine

Sherlock, Sheila: Puncture biopsy of the liver. Univ. West. Ontario M. J. **19:** 133-135, Nov. 1949.

(From Department of Medicine, Postgraduate Medical School of London, England.)

It is doubtful whether aspiration liver biopsy can ever be completely safe. It should be undertaken only by those well trained and in an institution equipped for careful observation of the patient and for blood transfusion, if necessary. With these provisos it is a justified and helpful adjunct in clinical medicine.

Knouf, Evelynne G.: Communicable diseases. California Med. **72:** 79-84, Feb. 1950.

(From Communicable Disease Unit, Los Angeles County Hospital.)

Some of the newer antibiotics are briefly discussed. This is followed by a discussion of the aspects of treatment of some of the communicable diseases (brucellosis, typhoid and typhus fever, Rocky Mountain spotted fever, Q-fever, tularemia, actinomycosis, pertussis).

Meyer, Margaret: A study of efferent connections of the frontal lobe in the human brain after leukotomy Brain **72**(pt. 3): 265-296, Sept. 6, 1949.

(From Department of Neuropathology, Institute of Psychiatry, Maudsley Hospital, London, and Department of Human Anatomy, University of Oxford.)

Brains of patients with a short survival time after leukotomy were examined by a silver method to trace corticofugal fibers to their termination in subcortical nuclei. The findings are given.

Andre-van Leeuwen, Maria, and van Bogaert, L.: Hereditary ataxia with optic atrophy of the retrobulbar neuritis type, and latent pallido-Luysian degeneration. Brain **72**(pt. 3): 340-363, Sept. 1949.

Another case is reported with a study of the family and autopsy findings. This is discussed with regard to the relationship between hereditary optic atrophies and the hereditary ataxias. Conclusions are drawn on the basis of the suggestive clinical and pathological observations.

Wedum, Bernice G., Darley, W., and Rhodes, P. H.: Prevalence of rheumatic heart disease at high altitudes. Am. J. Dis. Child **79:** 205-210, Feb. 1950

(From Denver Area Rheumatic Fever Diagnostic Service, University of Colorado Medical Center.)

The prevalence of rheumatic heart disease among children in Colorado living at an altitude of 10,000 feet or above was determined. The results show that rheumatic heart disease is not unusually prevalent or severe at this altitude and that Colorado is not unusual compared with other areas, although the death rate is high.

Gajdusek, D. C., and **Luther, Gertrude:** Fluoroacetate poisoning. A review and report of a case. Am. J. Dis. Child **79:** 310-320, Feb. 1950.

(From Gates and Crellin Laboratories, California Institute of Technology, Pasadena, and Children's Hospital, Cincinnati, Ohio.)

In the case reported cardiac and central nervous system symptoms predominated as in experimental animals, but the child recovered completely without sequelae.

Sherman, Mary S., and Hellyer, D. T.: Infantile cortical hyperostosis. Review of the literature and report of five cases. Am. J. Roentgenol. **63:** 212-222, Feb. 1950.

(From Department of Surgery, Division of Orthopedic Surgery, and Department of Pediatrics, University of Chicago.)

The known facts in the literature are discussed, and some facts learned from five more cases are added.

Hajos, Mary-Katharine: Skin tests with steroid hormones in allergic diseases. Ann. Allergy **8:** 66-67, Jan.-Feb. 1950.

The results of tests in 107 cases are reported. In cases of allergic manifestations associated with the sex cycle, hormone testing proved to be more or less positive.

Loveless, Mary Hewitt: Cottonseed protein vs. cottonseed oil sensitivity. IV. An objective approach to the diagnosis of food-allergy as applied to cottonseed atopy. Ann. Allergy **8:** 15-22, 125, Jan.-Feb. 1950.

(From New York Hospital and Department of Medicine, Cornell University Medical College, New York.)

Using controlled conjunctival, intracutaneous, and scratch tests, the minimal amounts of extract required for allergic responses were determined for four cottonseed-sensitive patients. The amounts needed for Pfausnitz-Kustner test and for exhaustion of serum reagins were also estimated. A new type of threshold ingestion test is described. The results are discussed.

McCabe, Anna M.: Institutional care of children. Irish J. M. Sc., pp. 50-58, Feb. 1950.

The care of children in boarding school, particularly secondary and training schools, as well as in other institutions is discussed.

Norval, Mildred A.: Blood sugar values in premature infants. J. Pediat. **36:** 177-184, Feb. 1950.

(From Mayo Clinic, Rochester, Minn.)

During their first two weeks of life 33 premature infants, otherwise normal, were examined for blood sugar content. In addition, 9 premature infants who died before their third day of life were examined. The findings are discussed in relation to various factors.

Alexander, Hattie E., Leidy, G., Redman, W., and Simakow, E.: Experimental basis for prediction of therapeutic efficacy of streptomycin in infections caused by gram negative bacilli. Pediatrics, **5:** 78-89, Jan. 1950.

(From Babies Hospital and Department of Pediatrics, Columbia University College of Physicians and Surgeons, New York.)

The results of investigation of the causes of the differences in therapeutic success of streptomycin among infections with H. influenzae, H. pertussis, H. parapertussis, E. coli, Salmonella, Shigella, S. typhosa, and Ps. aeruginosa are reported. Two factors were studied: (1) frequency of occurrence of mutants exhibiting lower degrees of resistance to streptomycin; (2) speed of lethal action of streptomycin on the sensitive cells of these organisms.

McDougall, Clarice: Clinical evaluation of abnormal enzyme content in the pancreatic juice of children. Pediatrics, **5:** 114-126, Jan. 1950.

(From Children's Hospital of Philadelphia, Pa.)

The enzyme activity of the duodenal juice was studied in 165 children who had been intubated. The findings are discussed.

Austin, Elizabeth, and others: Administration of the Physical Medicine Department, Los Angeles County Hospital, during the 1948 poliomyelitis epidemic. Physical Medicine procedures in the care of respiratory patients. Measures used in the Los Angeles County Hospital during the 1948 poliomyelitis epidemic. Arch. Phys. Med. **31:** 71-74, 76-80, Feb. 1950.

(From Department of Physical Medicine and Communicable Disease Unit, Los Angeles County Hospital, and University of Southern California School of Medicine.)

The methods and procedures are described.

Austin, Elizabeth, and others: A mirror for use on respirators. Arch. Phys. Med. **31:** 74-75, Feb. 1950.

The mirror is described and illustrated.

Klien, Bertha A.: Prevention of retinal venous occlusion with special reference to ambulatory dicumarol therapy. Am. J. Ophth. **33:** 175-184, Feb. 1950.

(From Department of Ophthalmology, Northwestern University Medical School, Chicago.)

The author describes the signals of imminent retinal venous occlusion and anatomic vascular relations in the fundi, and then discusses the role of venous stagnation. Drugs favoring thrombus formation are briefly discussed. The statements made are illustrated by five case reports. Dicumarol therapy as described has proved to be satisfactory for prolonged anticoagulant effect.

Bellows, J. G., **Richardson, Viola M.,** and Farmer, C. J.: Aureomycin in ophthalmology. Am. J. Ophth. **33:** 273-283, Feb. 1950.

(From Department of Ophthalmology and Department of Biochemistry, Northwestern University Medical School, Chicago.)

Aureomycin is well tolerated by the ocular tissues when the recommended dosages and methods of administration

are used. It holds promise as a useful addition to the therapeutic armentarium of the ophthalmologist and is the antibiotic of choice in certain viral diseases of the eye.

Brunschwig, A., Jordan, M. J., and Pierce, Virginia K.: Radical panhysterectomy, pelvic lymph node excision, total vaginectomy, and total cystectomy. A one-stage operation for carcinoma of the female genitals invading the bladder. (Report of twenty-one cases.) Am. J. Obst. & Gynec. 59: 237-245, Feb. 1950.

(From Memorial Hospital Center for Treatment of Cancer and Allied Diseases, New York.)

A procedure is described for excision of the entire vagina, bladder, uterus, and pelvic nodes with bilateral ureteral implantation into the colon in an attempt to encompass the neoplasm and its extensions and to spare the colon. The results are discussed and justification for the radical surgical attack in certain cases is advanced.

Macklin, Madge T.: The use of monozygous and dizygous twins in the study of human heredity. Am. J. Obst. & Gynec. 59: 359-364, Feb. 1950.

(From Departments of Medicine and Zoology, Ohio State University, Columbus.)

Methods of study and identification are outlined.

Nicolas-Fernando, Felisa: A visit to some eye clinics in the United States and Europe. J. Philippine M. A. 25: 555-557, Nov. 1949.

The author comments on the use of beta rays in superficial lesions of the anterior segment of the eye, on the use of furmethide in acute congestive glaucoma, on suction apparatus for intracapsular extraction, and on the streak retinoscope. She discusses the advances made in various cities of Europe and mentions some of the larger ophthalmologic libraries.

Oppel, T. W., Coker, Carolyn, and Milhorat, A. T.: The effect of pituitary adrenocorticotropin (ACTH) in dermatomyositis. Ann. Int. Med. 50: 318-324, Feb. 1950.

(From Departments of Medicine and Psychiatry, Cornell University Medical College, New York Hospital, and Russell Sage Institute of Pathology, New York.)

In a young adult male treated with ACTH, good evidence of adrenal cortical stimulation was observed and the patient made a very dramatic recovery. He received nearly 4 gm. of the hormone. Only mild manifestations of hyperadrenalism developed.

Bonser, Georgiana, Raper, F. P., and Shucksmith, H. S.: Epidermoid cysts in the region of the rectum and anus. A report of four cases. Brit. J. Surg. 37: 303-306, Jan. 1950.

Four cases are described and 21 similar cases are collected from the literature. Stress is laid on the importance of recognizing such cysts. The reason for regarding these cysts as teratomatous are given.

Maynard, Margaret: Squamous cell carcinoma following injury. Acuff Clinic Bull., Knoxville, Tenn., 1: 8-9, Oct. 1949.

Two case reports.

Ferrer, M. Irene, Harvey, Rejane M., and others: Some effects of digoxin upon the heart and circulation in man. Digoxin in Cor pulmonale. Circulation 1: 161-186, Feb. 1950.

(From Department of Medicine, Columbia University College of Physicians and Surgeons, and Cardio-Pulmonary Laboratory of the First Medical and Chest Services (Columbia University Division), Bellevue Hospital, New York.)

The early effects of intravenous digoxin were studied by cardiac catheterization procedure in 5 patients with chronic cor pulmonale in right-sided failure. The effects of acute digitalization were observed in 3 patients who were not in cardiac failure and in 2 with pulmonary hypertension and no evidence of cardiac disease. A study was also made of the acute response to digoxin of 2 patients in cardiac failure with both chronic pulmonary disease and heart disease of etiologies other than cor-pulmonale. A tentative concept of some of the mechanisms involved is presented and discussed.

Rinzler, S. H., Bakst, H., Benjamin, Z. H., Bobb, Audrie L., and **Travell, Janet:** failure of alpha tocopherol to influence chest pain in patients with heart disease. Circulation 1: 288-293, Feb. 1950.

(From Cardiovascular Research Unit, Beth Israel Hospital, and Department of Pharmacology, Cornell University Medical College, New York.)

The effects of synthetic alpha tocopherol and a placebo were compared by the blind-test method in 41 ambulatory patients with chronic chest pain and heart disease. The results failed to confirm the reported benefits of alpha tocopherol in cardiac pain.

McGeachy, Jessie A.: Psychosomatic principles. Cardiac illustrations. J. Am. M. Women's A. 5: 45-50, Feb. 1950.

(From Department of Medicine, University of Manitoba Medical School.)

The influence of emotion on organic disease is discussed and illustrated by a few clinical cases.

Goldsmith, Margot W.: Anaesthesia for patients with heart disease J. Am. M. Women's A. 5: 51-54, Feb. 1950.

(From the Department of Anaesthesia, Royal Infirmary, Edinburgh.)

The author discusses the general management and general rules applying to all cases, including anaesthetic agents and methods. The greatest friend of the cardiac patient and anaesthetist is oxygen, and the greatest enemy is anoxia.

Rader, Bertha: Electrograms obtained during cardiac catheterization in man. J. Am. M. Women's A. 5: 55-59, Feb. 1950.

(From New York University-Bellevue Medical Center of New York University, and Adult Cardiac Clinic, Bellevue Hospital, New York.)

Atrial and ventricular electrograms are discussed and illustrated.

Tudbury, Patricia B.: The adrenal cortex. II. Clinical pathology. J. Am. M. Women's A. 5: 61-65, Feb. 1950.

Conclusion of discussion of recent clinical advances in relation to the adrenal cortex.

Schwartz, Lois L.: The coronary circulation. J. Am. M. Women's A. 5: 66-68, Feb. 1950.

(From Institute for Medical Research, Cedars of Lebanon Hospital, Los Angeles, Calif.)

Review of studies related to normal and pathologic physiology of the coronary circulation and discussion of recently developed methods of investigation which elucidate and elaborate known concepts and establish new ones.

Mac Eachern, Katherine H:: The treatment of syphilis. J. Am. M. Women's A. 5: 69-72, Feb. 1950.

(From Department of Medicine, Dermatology and syphilology, University of Southern California.)

A review of current literature on the penicillin treatment of different types of syphilis. The author concludes that Penicillin G is the most effective antisyphilitic drug thus far discovered. Accepted treatment schedules for the various manifestations of syphilis are given.

Malpas, P., Jeffcoate, T. N. A., and **Lister, Ursula M.:** The displacement of the bladder and urethra during labour. J. Obst. & Gynaec. Brit. Emp. 56: 949-960, Dec. 1949.

(From Department of Obstetrics and Gynaecology, University of Liverpool.)

The movement of the bladder and urethra in labor was studied by a series of cystograms. The findings are given with discus ion of some of the clinical implications.

Roberts, Hilda: An anaesthetist's contribution to the resuscitation of the newborn. J. Obst. & Gynaec. Brit. Emp. 56: 961-970, Dec. 1949.

(From Postgraduate Medical School of London.)

The theories of the onset of respiration in the newborn are reviewed with presentation of Flagg's classification of fetal asphyxia and the etiology of asphyxia neonatorum. The practical measures of treatment adopted by the author are described.

Donnelly, Grace C., and Bauld, W. A. G.: Total hysterectomy and carcinoma of the cervical stump. J. Obst. & Gynaec. Brit. Emp. 56: 971-975, Dec. 1949.

(From Royal Victoria Hospital and McGill University, Montreal.)

Cases of carcinoma of the cervical stump seen in the Radium Clinic are reviewed. In the 23-year period from 1926 to 1948 inclusive, 40 cases of true cervical stump carcinoma were seen. The statistics are summarized.

Guest, Edna: Maude Abbott, 1869-1940: Her contributions to cardiology. J. Am. M. Women's A. 5: 74-75, Feb. 1950.

A brief review of the accomplishments of Dr. Abbott during her 41 years of active work as curator of the Medical Museum of McGill University, Montreal.

Guion, Connie M.: Establishing a private practice. J. Am. M. Women's A. 5: 76-77.

One of a series of articles, under the general head of The Problem Clinic, designed to answer questions asked by the young doctor starting practice. From her experience the author gives excellent advice on the selection of office quarters and equipment.

Colaco, Lydia: Uterus pseudo-didelphus with simultaneous pregnancies. J. Obst. & Gynaec. Brit. Emp. 56: 1018-1023, Dec. 1949.

(From Sabina Lobo Memorial Maternity Hospital, Mangalore, India.)

A case is reported with an interval of 21 days, 2 hours, and 10 minutes between the twin deliveries, with a commentary on the management.

Duffy, Ruth E.: Tic de Gilles de la Tourette. M. Woman's J. 57: 18-21, Feb. 1950.

A case report of an 11 year old boy is presented in detail. Psychotherapy offers a relatively new approach for this condition. Prognosis for the present is considered unfavorable.

Aronoff, Marie: Health centers in Israel. M. Woman's J. 57: 22-24, Feb. 1950.

The Health Centers in Israel serve more than half the population. These are discussed in general, with emphasis on the gynecological services.

Muhl, Anita M.: Unreliability of behavior as evidenced in handwriting. M. Woman's J. 57: 27-30, Feb. 1950.

Examples are given to show that people with trends toward unreliability and unpredictability in behavior manifest these in their handwriting early enough so that preventive treatment can be given before the behavior becomes overt and gives rise to serious adjustment problems.

Glass, Sarah E.: Effects of lobotomy as observed in a North Carolina State Hospital. North Carolina M. J. 11: 67-71, Feb. 1950.

(From the State Hospital at Raleigh, North Carolina.)

Two series of cases containing a total of 20 patients, most of whom suffered from chronic mental illness, are reviewed. Both series easily justify an extension of the lobotomy program with more critical selection of cases, keener appraisal of other therapeutic tools, and more serious research directed toward a better understanding of the patient and his therapeutic needs.

Chess, S., Chess, Dorothy, Olander, G., and others: Production of chronic enteritis and other systemic lesions by ingestion of finely divided foreign materials. Surgery, 27: 221-234, Feb. 1950.

(From Department of Surgery, University of Illinois School of Medicine, Chicago.)

Finely divided sand and talcum powder when placed on the gastro-intestinal tract can be absorbed to the detriment of the animal. When such is present in the gastro-intestinal tract for a sufficient length of time in sufficient quantity pathologic changes occur. These are described and discussed, and a theory with regard to the etiology of regional enteritis is advanced.

Egidi, E., and Gomirato-Sandrucci, M.: Caratteristiche fisiche e nefelospettro degli aerosoli in camera inalatoria per diapneumoterapia. Ricerche sull'assorbimento di medicamenti aerosolizzati in camera inalatoria per diapneumoterapia (Penicillina, streptomicina, salicilato di Na) Minerva med. 2: 790-800, Nov. 24 (suppl.), 1949.

(From Clinica Pediatrica dell-Universita di Torino; Ospedale Infantile Regina Margherita.)

The concentration of the aerosols in the various body fluids is discussed.

Egidi, E., Lattes, E., and Gomirato-Sandrucci, M.: Sulla disinfezione dell-aria ambiente per mezzo di penicillina aerosolizzata. Minerva med. 2: 800-803, Nov. 24 (suppl.), 1949.

The effect of penicillin aerosol on the surrounding atmosphere, with regard to the organisms commonly present in it, is considered.

Sternbach, Ilse: Erwagungen zur prafrontalen Leukotomie [Evaluation of prefrontal leukotomy] Wienklin. Wchnschr. 62: 87-88, Feb. 3, 1950.

(From Landes-Heil-und Pflegeanstalt Valduna, Voralberg.)

Of six patients operated on, only one showed a good remission. The other five had to be returned to the hospital. Prefrontal leukotomy is not an ideal solution of the problem, though more humane than shock therapy.

Hammerschmidt, Mathilde: Zur Frage rezidivierender Encephalopathien in Kindesalter. [The problem of recurrent encephalopathies in childhood.] Ztschr. f. Kinderh. 67: 276-293, 1949.

(From Universitats-Kinderklinik Munster.)

Five cases are described.

Valdes-Dapena, A. M., Valdes-Dapena, Marie A., and Pocock, D. S.: Renal vascular lesions in diabetes; a preliminary report. J. Philadelphia Gen. Hosp. 1: 8-12, Jan. 1950.

(From Division of Pathology, Philadelphia General Hospital.)

A total of 429 autopsies on known diabetics at the Philadelphia General Hospital from 1938 to 1947, inclusive, were studied from the standpoint of gross and microscopic characteristics of the kidney. In addition, 100 kidney slides from patients who died in uremia, but whose charts showed no evidence of diabetes in the patients, and 50 kidney slides of benign and malignant hypertension were examined. The findings are discussed.

Lasche, Eunice M., Schneeberg, N. G., Perloff, W. H., and others: A simplified I131 diagnostic test for thyroid function. J. Philadelphia Gen. Hos. 1: 13-16, Jan. 1950.

(From Endocrine Clinic of the Philadelphia General Hospital.)

The I131 uptake of the thyroid gland was determined istration of the radioactive iodine. It was shown statis- in 149 patients 5 to 6, 24, and 48 hours after the admintically that the 24 hour reading offers the greatest amount of information concerning the function of the thyroid gland and has the advantage of being a relatively simple and inexpensive test.

Kieser, Elsa: Neurologische Veranderungen im Verlauf streptomycinbehandelter tuberkuloser Meningitis. [Neurological changes occurring during the course of tuberculous meningitis treated with streptomycin.] Ztschr. f. Kinderh. 67: 423-438, 1949.

(From Universitats-Kinderklinik, Frankfurt/Main.)

The neurological changes occurring in 40 cases are described, with discussion of the final results.

Cuthbert, Grace J.: Infant mortality in New South Wales. M. J. Australia, 1: 72-78, Jan. 21, 1950.

(From Department of Public Health, New South Wales.)

The improvement in the welfare of the infant population and the age groups in which this has occurred is shown. Factors which will assist in improvement and have done so are discussed.

Pflugfelder, Marianne, and Hauser, F.: Komplette Blicklahmung in einem Falle von Heine-Medinscher Polio-Encephalitis acuta. Ophthalmologica, 118: 378-382, Oct.-Nov. 1949.

(From Universitats-Kinderklinik and Universitats-Augenklinik, Basel.)

A case of polioencephalitis with complete paralysis of conjugate movements of the eyes was seen during an epidemic of poliomyelitis of the Heine-Medin type. The pathology of this very rare symptom and the literature are briefly discussed.

Peters, Hannah, and Madden W. L.: The cervical smear in office practice. J.A.M.A. 142: 624-626, March 4, 1950.

The results of the cytologic examination of cervical smears from 200 consecutive gynecologic patients are presented and the value of the smear, other than in the discovery of uterine malignant changes, is discussed.

Guttmann, Ruth J.: X-ray therapy of primary inoperable carcinoma of the breast. Radiology, 54: 567-571, April 1950.

(From Memorial Hospital, New York.)

After studying hundreds of charts, 82 cases representing true primary inoperable carcinoma of the breast treated with radiation alone during the past 8 years were selected. The results in these cases are discussed

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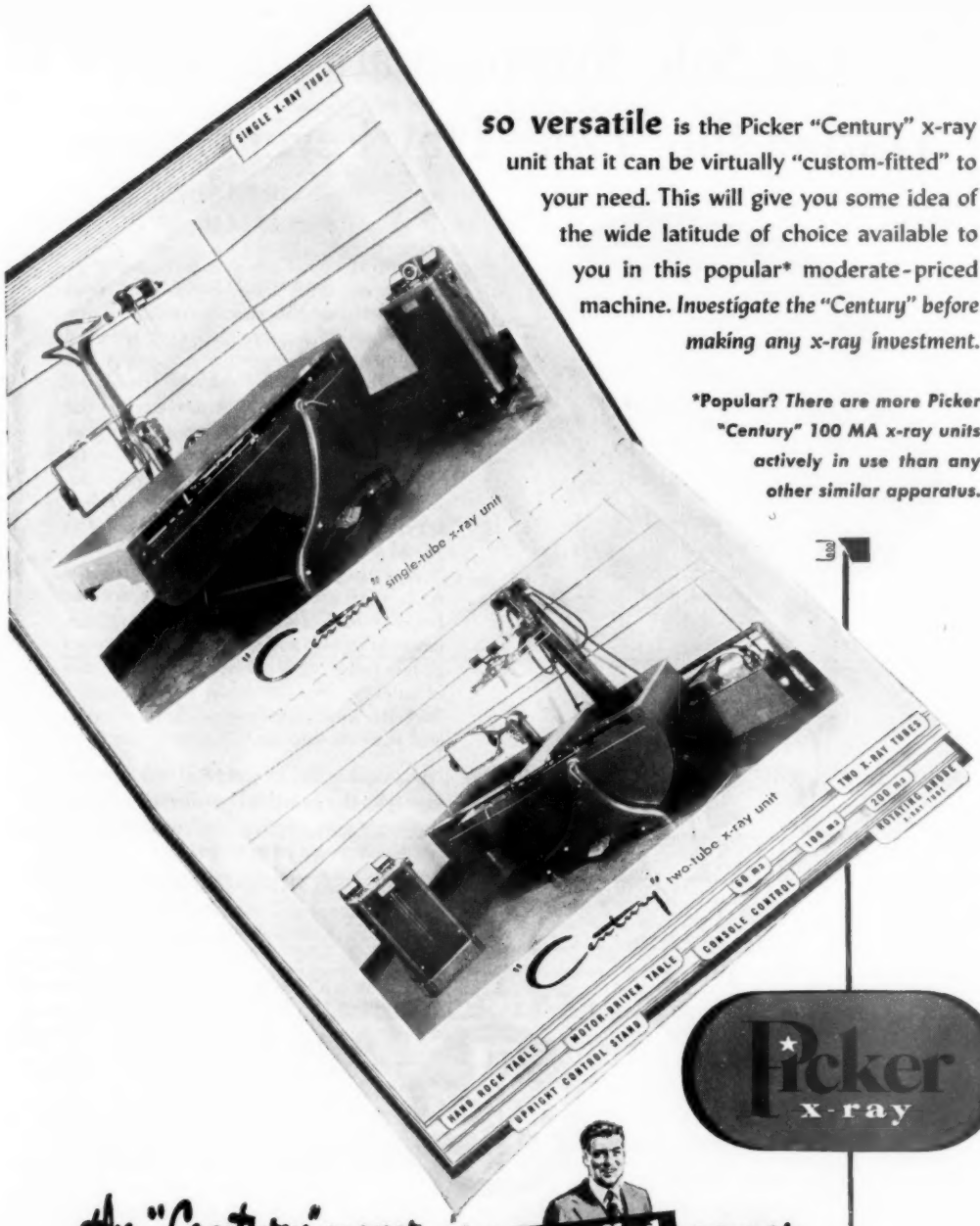

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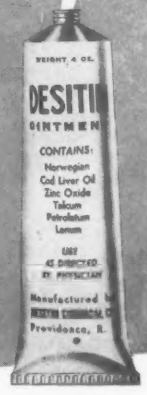

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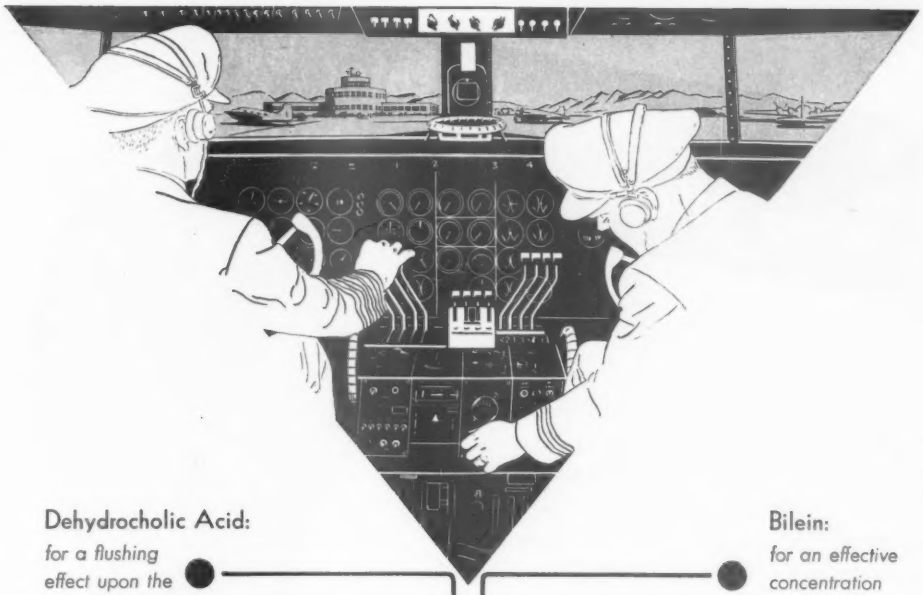

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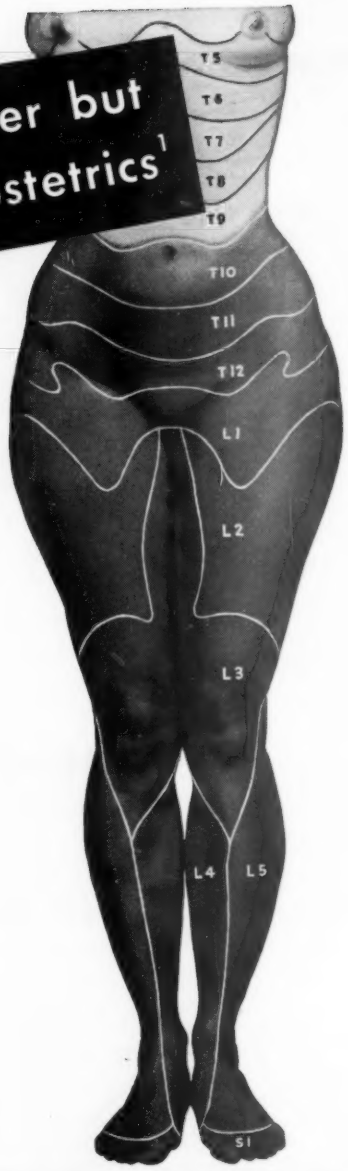

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1. Jorgenson, Graves & Savage: South. M. J., Sept. 1948
2. Schmitz, Towne & Baba: Am. J. Obst. & Gynec., 58:1, July 1949
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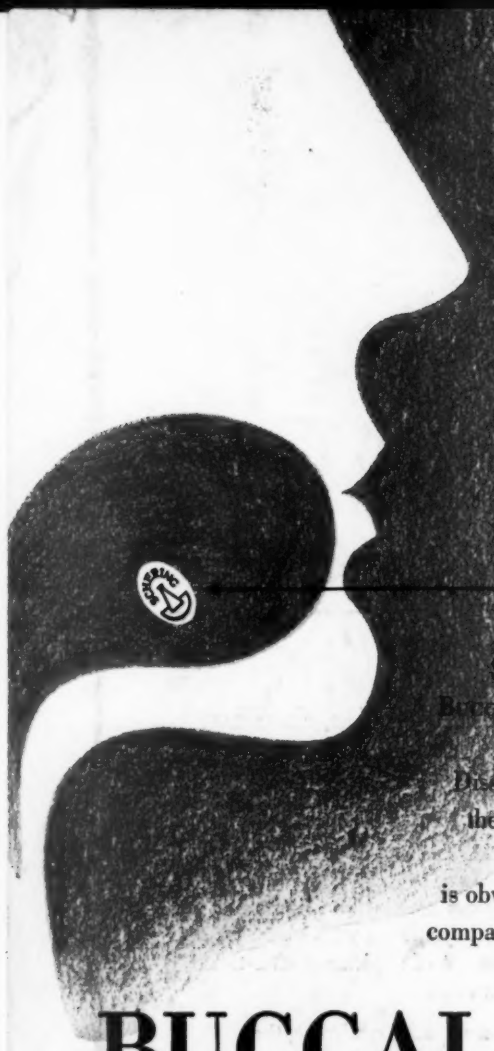

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